LGE PDP Repair Manual

PDP42V7****

Service
Service
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Service Manual

Contents **Page**

Published by MW 0567 TV Service Subject to modification EN 3122 785 15590

PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications PDP42V7*

The PDP Module is divided into a Panel part and a Drive part. The Panel part consists of Electrodes, Phosphor, various dielectrics, and gas, while the Drive part includes electronic circuitry and PWBs.

1.1.1 General Specification

Model Name	:	PDP42V7*
Number Of Pixels (HxV)	:	852 (*3) x 480
Pixel Pitch (HxV μm)	:	1080 x 1080
Cell Pitch (HxV μm)	:	320 x 1080
	:	(Base: Green Cell)
Display Area (HxV)	:	920.1x518.4 ± 0.5 mm
Outline Dimension (HxVxD)	:	1005x597x60.6±1mm
Colour Arrangement	:	RGB closed type
Number Of Colours (RxGxB)	:	1024 x 1024 x 1024
Weight	:	14.7 ± 0.5 kg
Aspect Ratio	:	16:9
Peak Brightness	:	Typical 1500 cd/m^2
	:	(1/10 white window)
	:	Average 100:1
	:	(Light room 100 Lx at centre)
Contrast Ratio	:	Typical 10000:1
	:	(Dark room 1/10 white window, white window pattern at centre)
Power Consumption	:	Typical 200 W
	:	(Full White) [1]
Lifetime	:	Over 60,000 Hrs. (Initial brightness 1/2)

Note 1) It can increase to 300 W depending on input image.

1.1.2 Definitions

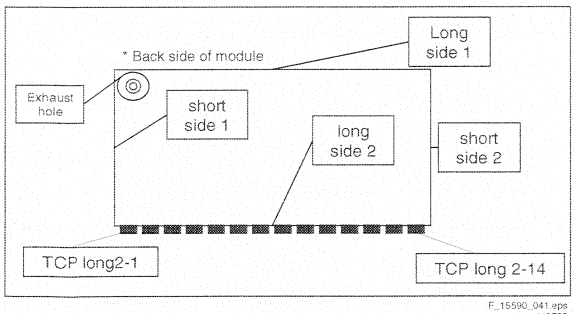

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Figure 1-1 Definition of module position

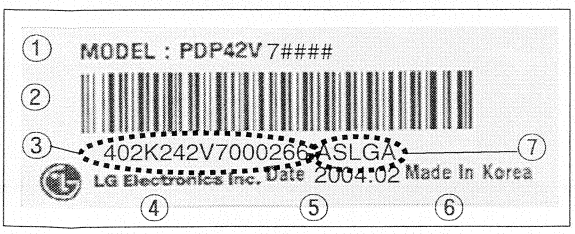

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Figure 1-2 Identification label

1. Model name.
2. Bar code (Code 128, contains the manufacture no.).
3. Manufacture no. (Module serial no.).
4. The trade name of LG Electronics.
5. Manufacture date (Year & Month).
6. The place of origin.
7. Model suffix.

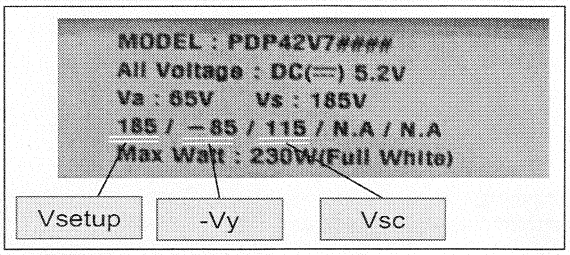

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Figure 1-3 Voltage label (on backside of module)

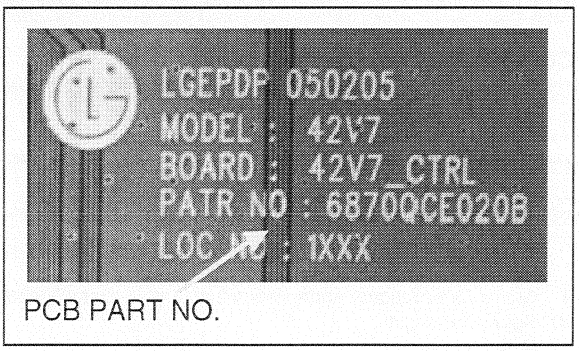

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Figure 1-4 Part number printing (on board)

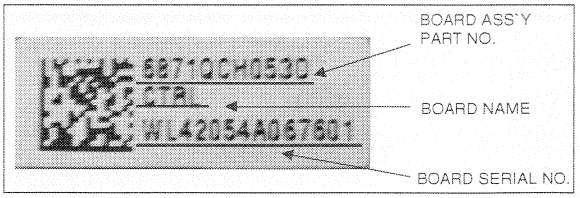

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Figure 1-5 Part number label (on board)

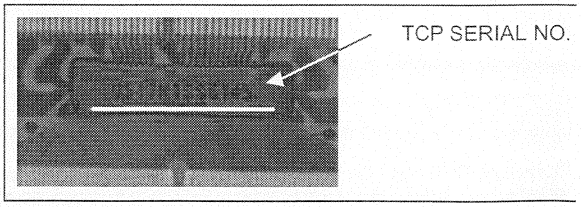

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Figure 1-6 TCP serial no. (on TCP)

1.1.3 Connection Overview

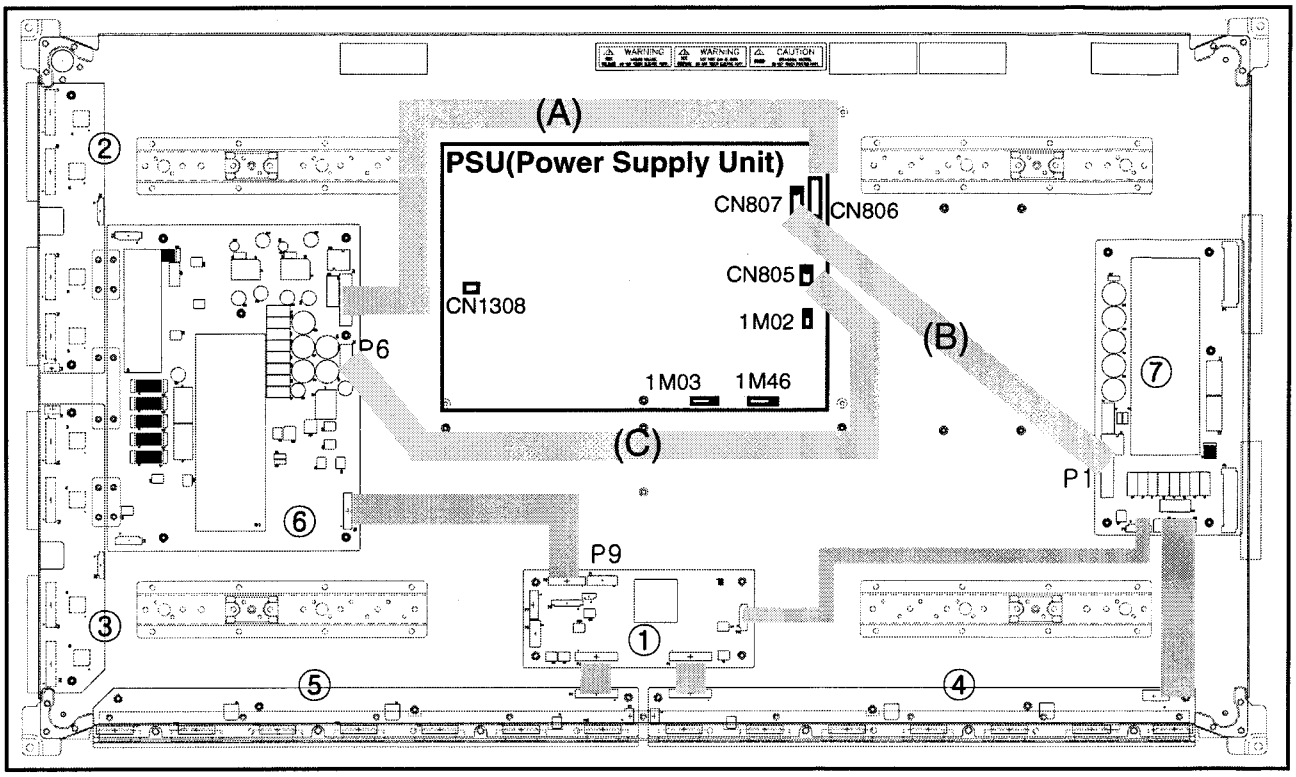

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Figure 1-7

Table 1-1 Connector signals

No	Connector	Input voltage & signal
P1	Z SUS board	5V, Va, Vs
P5	Y SUS board	Vs
P6	Y SUS board	5V
P9	CTRL board	Control signal

Table 1-2 PSU Cable Assies

No	LGE Part No.	Description
A	6631Q39032A	Cable assy 10p PSU->Y-SUS
B	6631Q39033A	Cable assy 8p PSU->Z-SUS
C	6631Q39034A	Cable assy 4p PSU->Y-SUS

Table 1-3 PSU Connectors

No	Input voltage & signal
CN806	Vs: 187 V
CN807	Vs: 187 V, Va: 65 V, 5 V
CN805	5V
CN1308	AC 220 V
1M02	+Vsnd: +18 V, -Vsnd: -18 V
1M46	8V6: 8.6 V, +12V: 12 V, +5V2: 5.2 V, Vtun: 50 V
1M03	5V_sw: 5.2 V

Table 1-4 Board overview

No	LGE Part No.	Description of board assy
1	6871QCH053D	LVDS CTRL
2	6871QDH084A	Y-DRV TOP
3	6871QDH085A	Y-DRV BTM
4	6871QRH055D	X-R
5	6871QLH047D	X-L
6	6871QYH036C	Y-SUS
7	6871QZH041A	Z-SUS
For Philips order codes, refer to "Ch. 10 Spare Parts".		

1.1.4 Chassis Overview

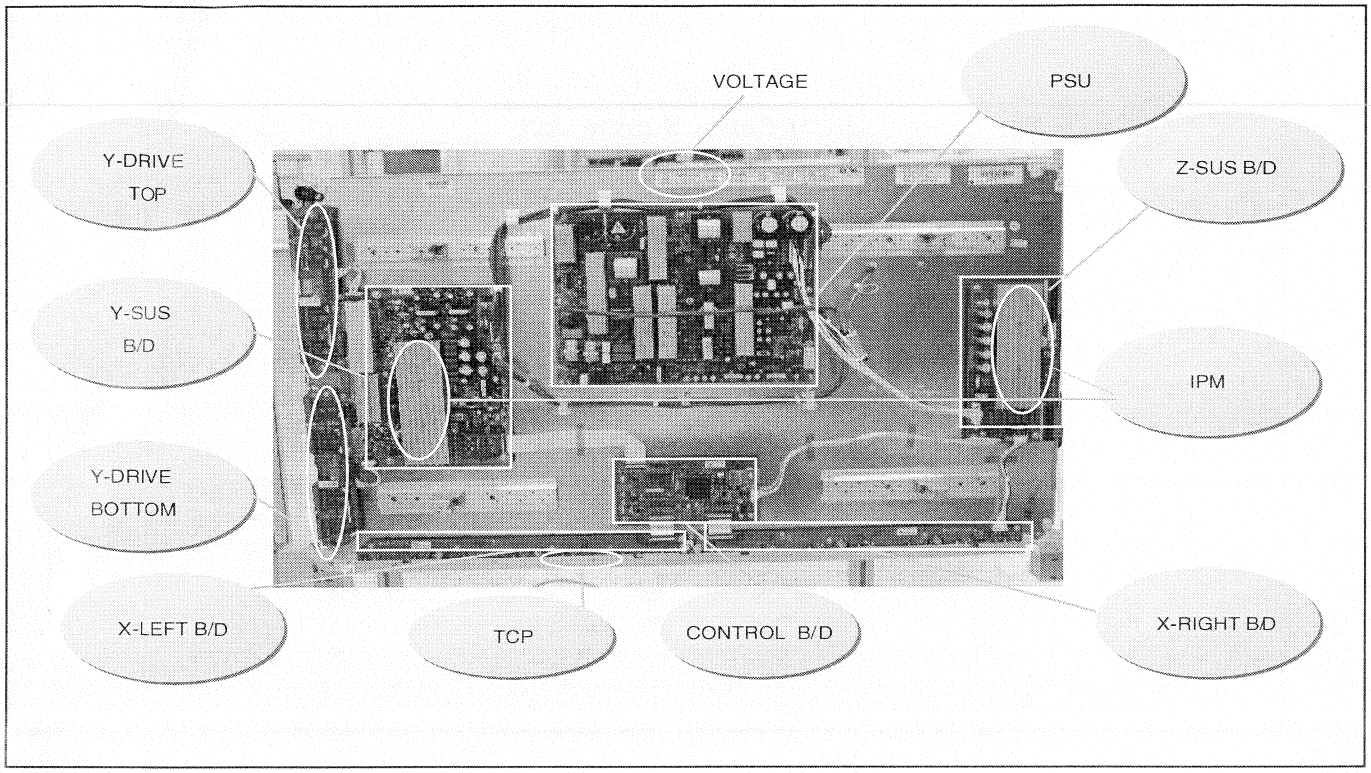

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Figure 1-8 PWB location

2. Safety Instructions, Warnings, and Notes

Notes:

- Only authorised persons should perform servicing of this module.
- When using/handling this unit, pay special attention to the PDP Module: it should not be enforced into any other way then next rules, warnings, and/or cautions.
- **"Warning"** indicates a hazard that may lead to death or injury if the warning is ignored and the product is handled incorrectly.
- **"Caution"** indicates a hazard that can lead to injury or damage to property if the caution is ignored and the product is handled incorrectly.

2.1 Warnings

1. Do not touch the Signal and Power Connectors while this product operates. Do not touch EMI ground part and Heat Sink of Film Filter.
2. Do not supply a voltage higher than specified to this product. This may damage the product or can create hazardous situations.
3. Do not use this product in locations where the humidity is extremely high, where it may be splashed with water, or where flammable materials surround it. Do not install or use the product in a location that does no satisfy specified environmental conditions. This may damage the product or can create hazardous situations.
4. If a foreign substance (such as water, metal, or liquid) gets inside the product, immediately turn "off" the power. Continuing to use the product may cause electric shock or can create hazardous situations.
5. If the product emits smoke and abnormal smell, or makes an abnormal sound, immediately turn "off" the power. Continuing to use the product may cause electric shock or can create hazardous situations.
6. Do not (dis)connect the connector while power to the product is "on". It takes some time for the voltage to drop to a sufficiently low level after the power has been turned "off". Confirm that the voltage has dropped to a safe level before (dis)connecting the connector.
7. Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.
8. Do not damage or modify the power cable. It may cause electric shock or can create hazardous situations.
9. If the power cable is damaged, or if the connector is loose, do not use the product, otherwise, this can lead to hazardous situations or may cause electric shock.
10. If the power connector, or the connector of the power cable, is dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to hazardous situations.
11. The PDP module uses a high voltage (max. 450 V_{DC}). Keep the cautions concerning electric shock and do not touch the device circuitry handling the PDP unit. And because the capacitors of the device circuitry may remain charged at the moment of Power "off", standing for 1 minute is required in order to touch the device circuitry.
12. Because the PDP module emits heat from the glass panel part and the drive circuitry, the environmental temperature must not be over 40 deg. C. The temperature of the glass panel part is especially high owing to heat from internal drive circuitry. And because the PDP module is driven by high voltage, it must avoid conductive materials.
13. If inserting components or circuit boards in order to repair, be sure to fix a lead line to the connector before soldering.
14. If inserting high-power resistors (metal-oxide film resistor or metal film resistor) in order to repair, insert it 10 mm away from a board.
15. During repairs, high voltage or high temperature components must be put away from a lead line.
16. This is a cold chassis but you better use an isolation transformer for safety during repairs. If repairing the electricity source part, you MUST use the isolation transformer.
17. Do not place an object on the glass surface of the display. The glass may break or be scratched.
18. This product may be damaged if it is subjected to excessive stresses (such as excessive voltage, current, or temperature). The absolute maximum ratings specify the limits of these stresses.
19. The recommended operating conditions are conditions in which the normal operation of this product is guaranteed. All the rated values of the electrical specifications are guaranteed within these conditions. Always use the product within the range of the recommended operating conditions. Otherwise, the reliability of the product may be degraded.
20. This product has a glass display surface. Design your system so that excessive shock and load are not applied to the glass. Exercise care that the vent at the corner of the glass panel is not damaged. If the glass panel or vent is damaged, the product is inoperable.
21. Do not cover or wrap the product with a cloth or other covering while power is supplied to the product.
22. Before turning on power to the product, check the wiring of the product and confirm that the supply voltage is within the rated voltage range. If the wiring is wrong or if a voltage outside the rated range is applied, the product may malfunction or be damaged.
23. Do not store this product in a location where temperature and humidity are high. This may cause the product to malfunction. Because this product uses a discharge phenomenon, it may take time to light (operation may be delayed) when the product is used after it has been stored for a long time. In this case, it is recommended to light all cells for about 2 hours (aging).
24. This product is made from various materials such as glass, metal, and plastic. When discarding it, be sure to contact a professional waste disposal operator.
25. If faults occur due to arbitrary modification or disassembly, LG Electronics is not responsible for function, quality or other items.
26. Use of the product with a combination of parameters, conditions, or logic not specified in the specifications of this product is not guaranteed. If intending to use the product in such a way, be sure to consult LGE in advance.
27. Within the warranty period, general faults that occur due to defects in components such as ICs will be rectified by LGE without charge. However, IMAGE STICKING due to misapplying the above provision (12), is not included in the warranty. Repairs due to the other faults may be charged for depending on responsibility for the faults.
28. While assembling the PDP module into a set, use the EMI ground part of the Film Filter for grounding, BEFORE removing the protective film, to prevent that static electricity can damage the TCPs or boards

3. Directions for Use

Not applicable.

4. Mechanical Instructions

4.1 Mechanical Overview PDP42V7*

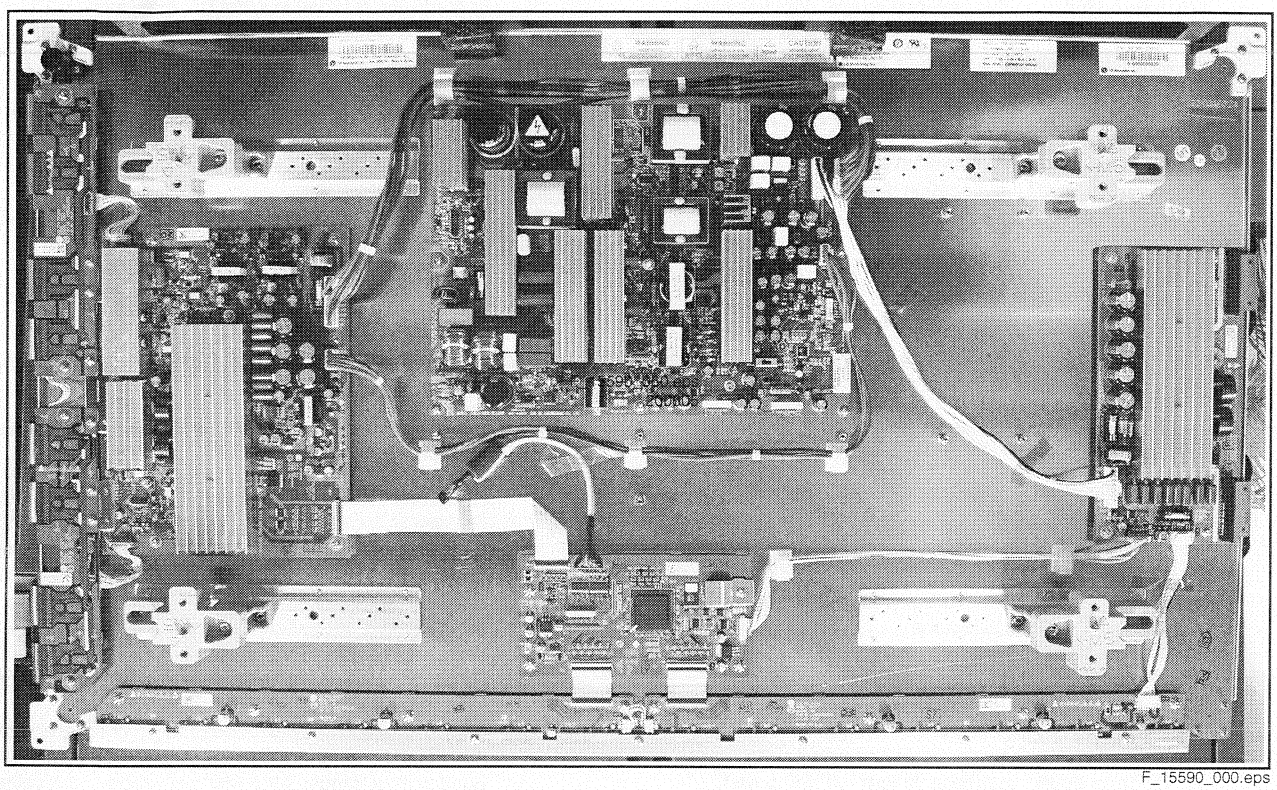

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Figure 4-1 Cable dressing

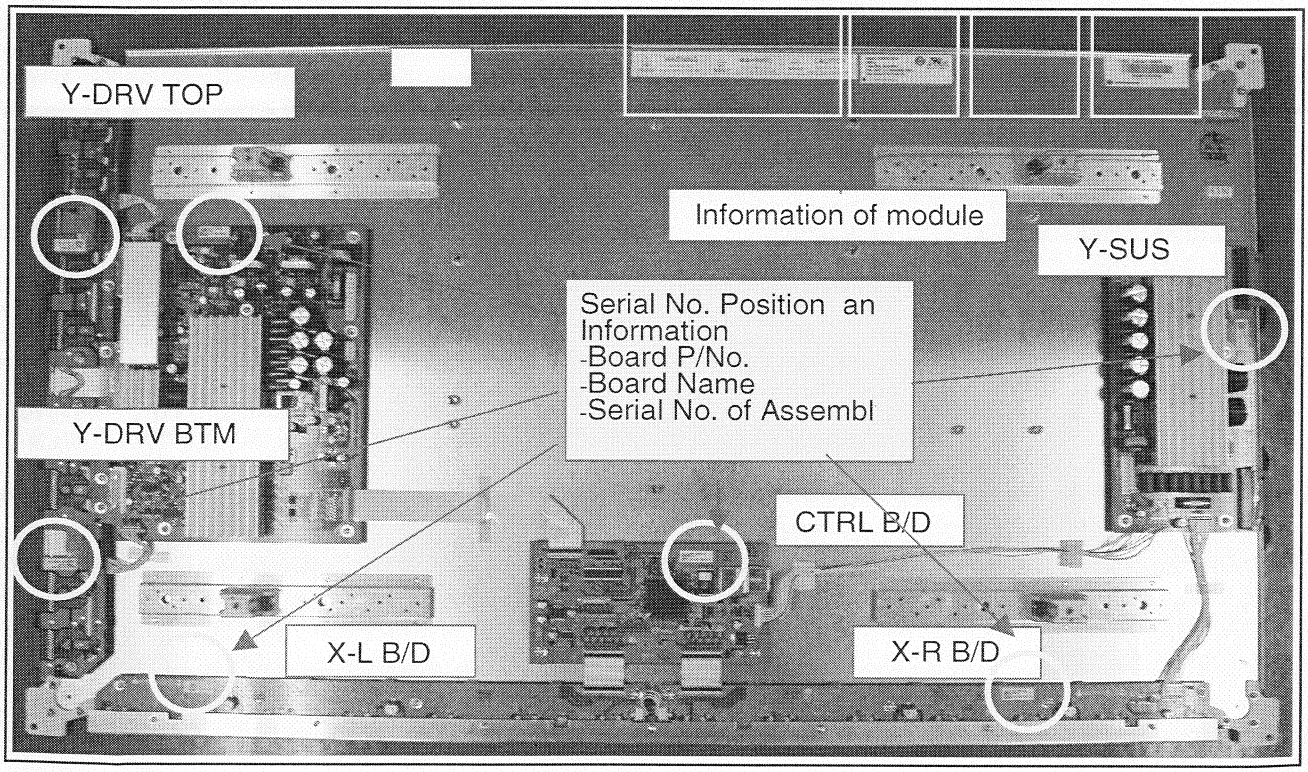

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Figure 4-2 Label location

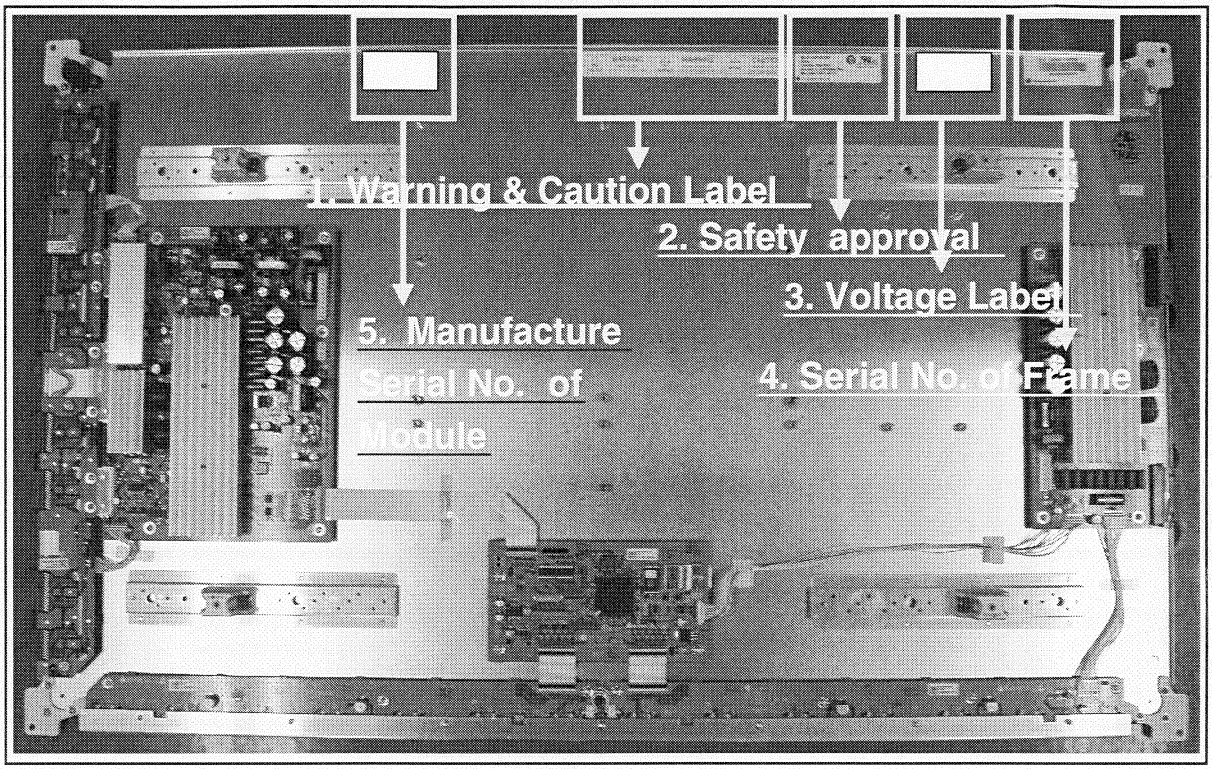

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Figure 4-3 Label indication

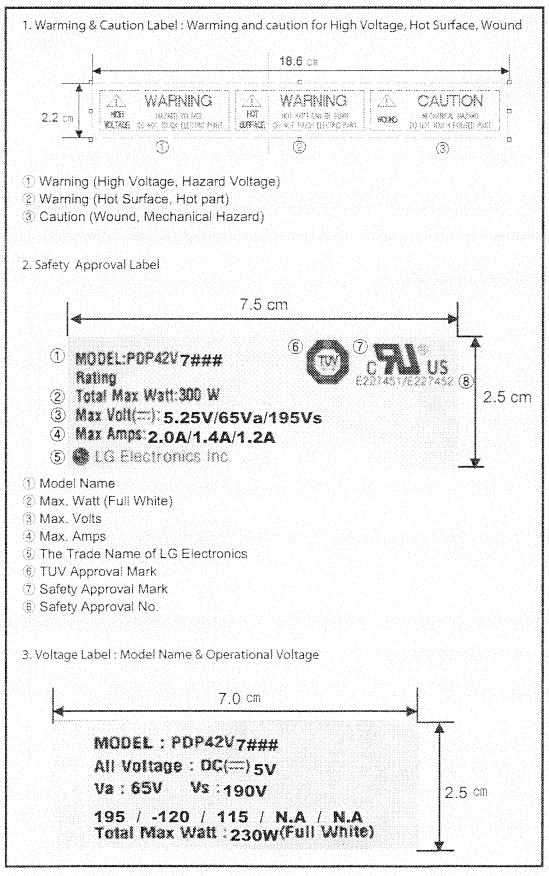

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Figure 4-4 Label information (1)

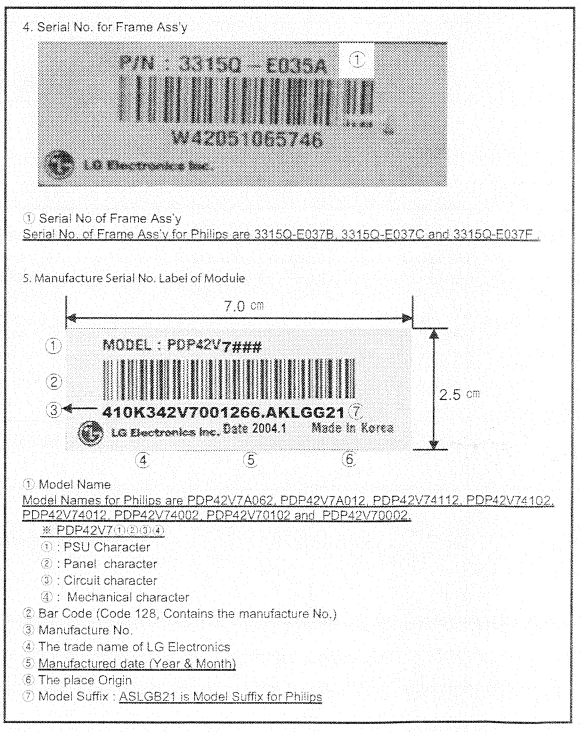

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Figure 4-5 Label information (2)

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Quick Module Check PDP42V7*

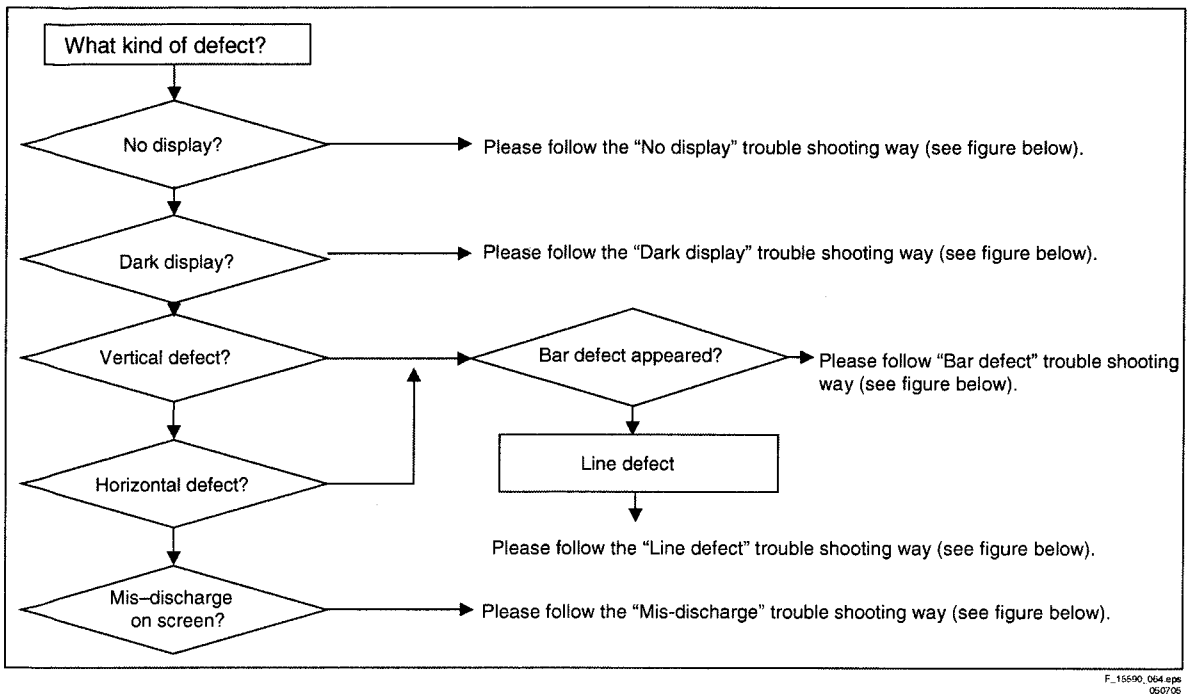

Figure 5-1 Logical judgement

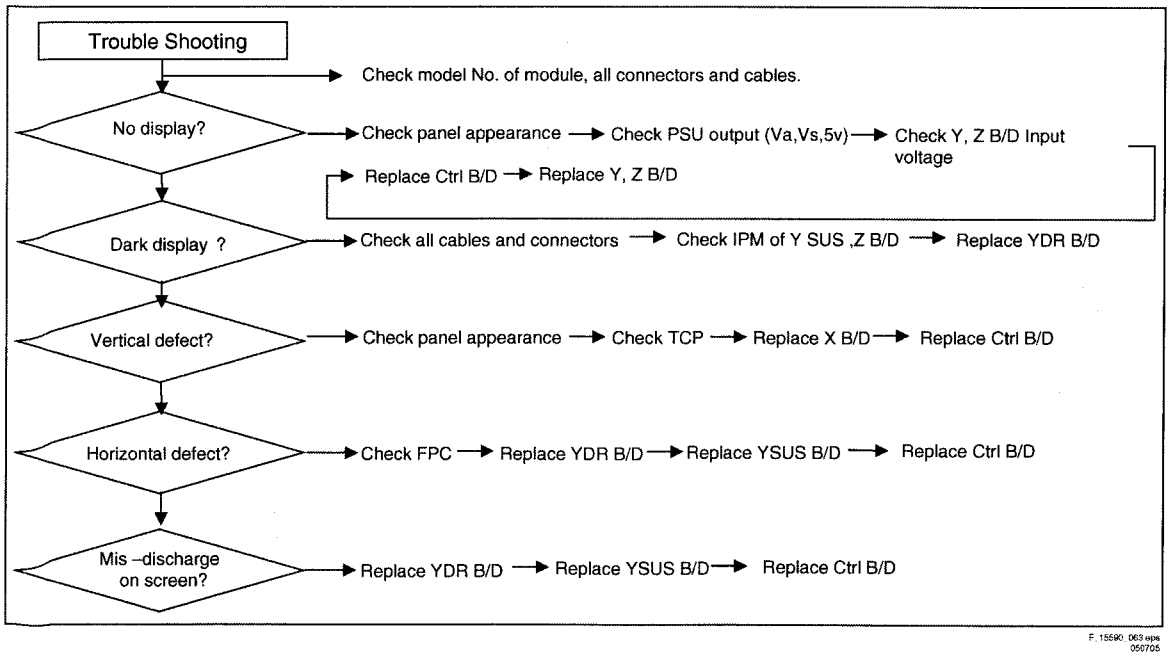

Figure 5-2 Quick check

5.1.1 No Display

Check each section with following method.
If there is a problem, replace or repair that part.
If it is not found, go to the next section.

Connectors
Confirm all connectors (PSU, Y-SUS, CTRL, Z-SUS). The module may not function normally by misconnection (can not send signal and power). Also misconnection for a long time can have a specific board failed.

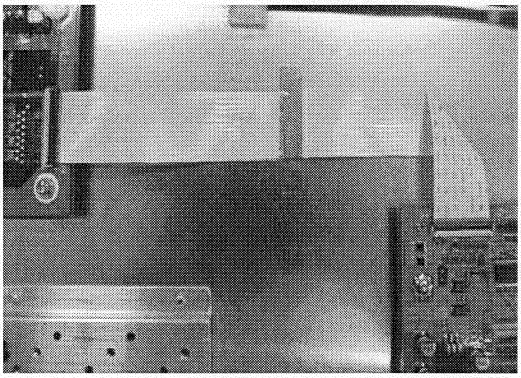

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Figure 5-3 Control + Y-SUS board

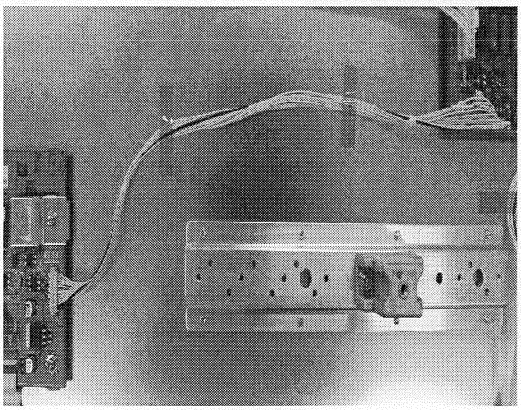

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Figure 5-4 Control + Z-SUS board

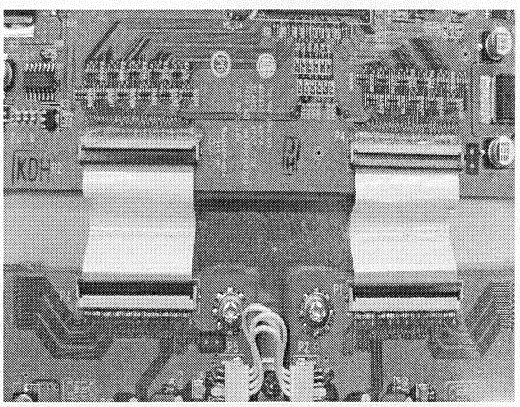

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Figure 5-5 Control + X board

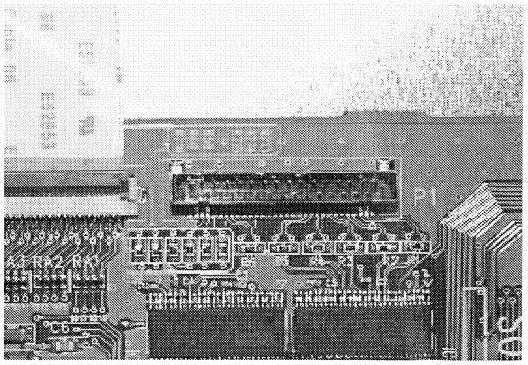

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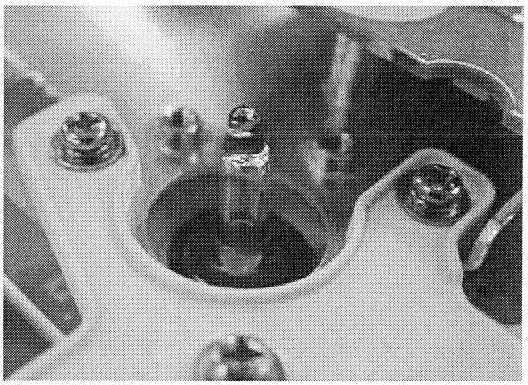
Figure 5-6 Signal input (LVDS)

Exhaust Tip
Check the Exhausting Tip for cracks with the naked eye to check the vacuum state.
If there is a problem, replace the PDP module by a new one.
In case of vacuum breakdown, the module makes a shaking noise because of inside gas ventilation.
There may be a small crack, which cannot be seen with the naked eye. This noise is different from capacitor noise.



NORMAL

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Figure 5-7 Exhaust tip "normal"

PSU (see figure "PSU trouble shooting")

1. Check each unit part of PSU inside with naked eye (capacitor, FET, IC, resistor).
2. Check fuse and switch position (on "Normal").
3. Check output voltage, which is converted from AC to DC.
4. Voltage Check (5V, Va, Vs).

When PSU protection occurred: check for short between Y-SUS and Z-SUS board.

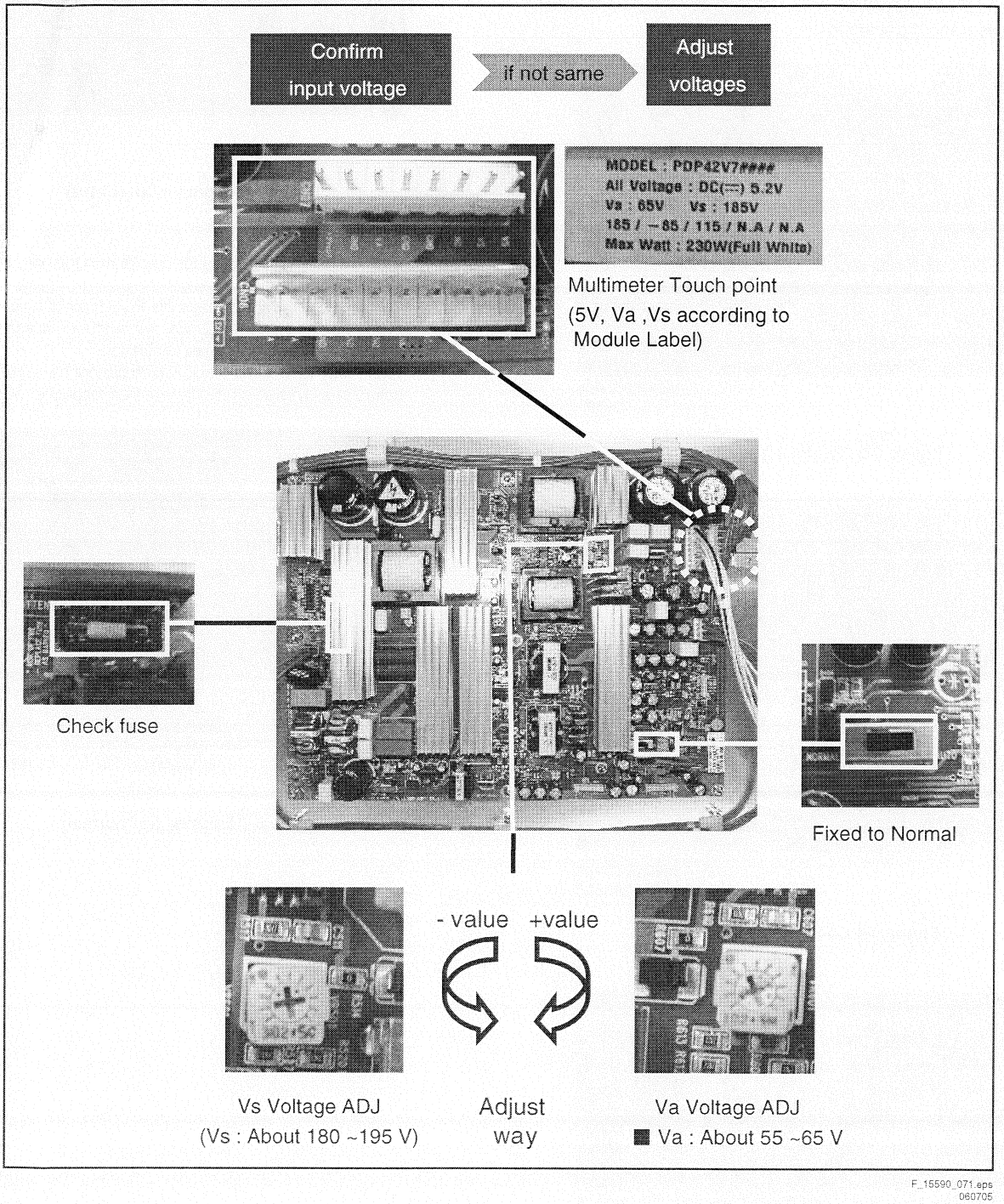

Figure 5-8 PSU trouble shooting

PSU Power Protection

There is a power protection when the power is switched "off" automatically within 2-3 min. from power "on".

The power protection function protects the boards when a short occurs on circuits of the PDP module, or when a power problem occurs. If there is no power, even after replacing the PSU, find out where the short occurred.

In case of a PSU protection, the red LED will be "on" and an error code will be displayed via the green blinking LED (see also paragraph "Detailed PSU Trouble Shooting" further on).

In case of a PSU protection, switch the service switch to "auto", disconnect the power supply connectors to the boards, to find if the if the boards are defective or the PSU itself.

Control Board (see figure "Control b/d trouble shooting")

1. Check LED status (normal status lightening or not)
2. If not, check OSC X1 output.
3. Check CTRL input voltage (connector P10).
4. Check each FET (3.3V, 5V, and 1.8V).

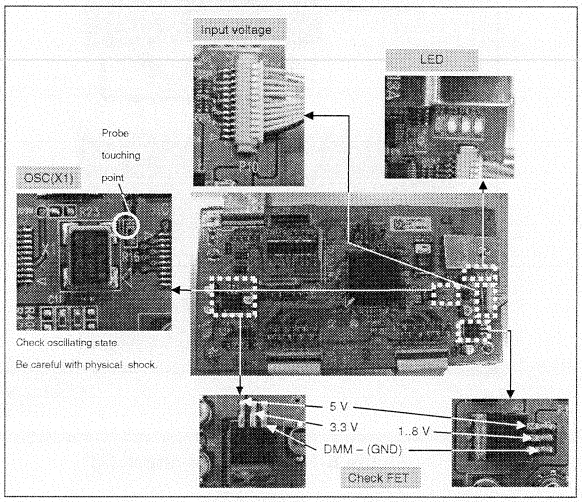

Figure 5-9 Control b/d trouble shooting

Y-SUS Board (see figure "Y-SUS b/d trouble shooting")

1. Check fuse: FS1 (5V), FS2 (Vs).
2. Check voltages (Vsetup, -Vy, and Vsc).
3. Check diode between GND and Y-SUS output.
4. Check whether output voltages agree with voltages on the label.

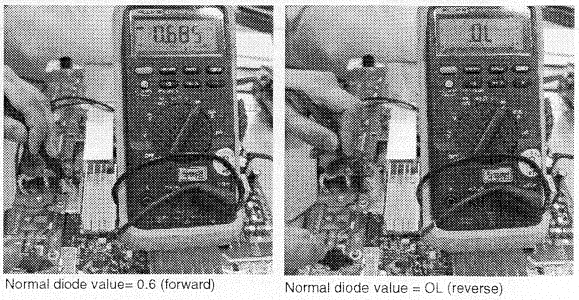

Figure 5-10 Y-SUS board output diode check

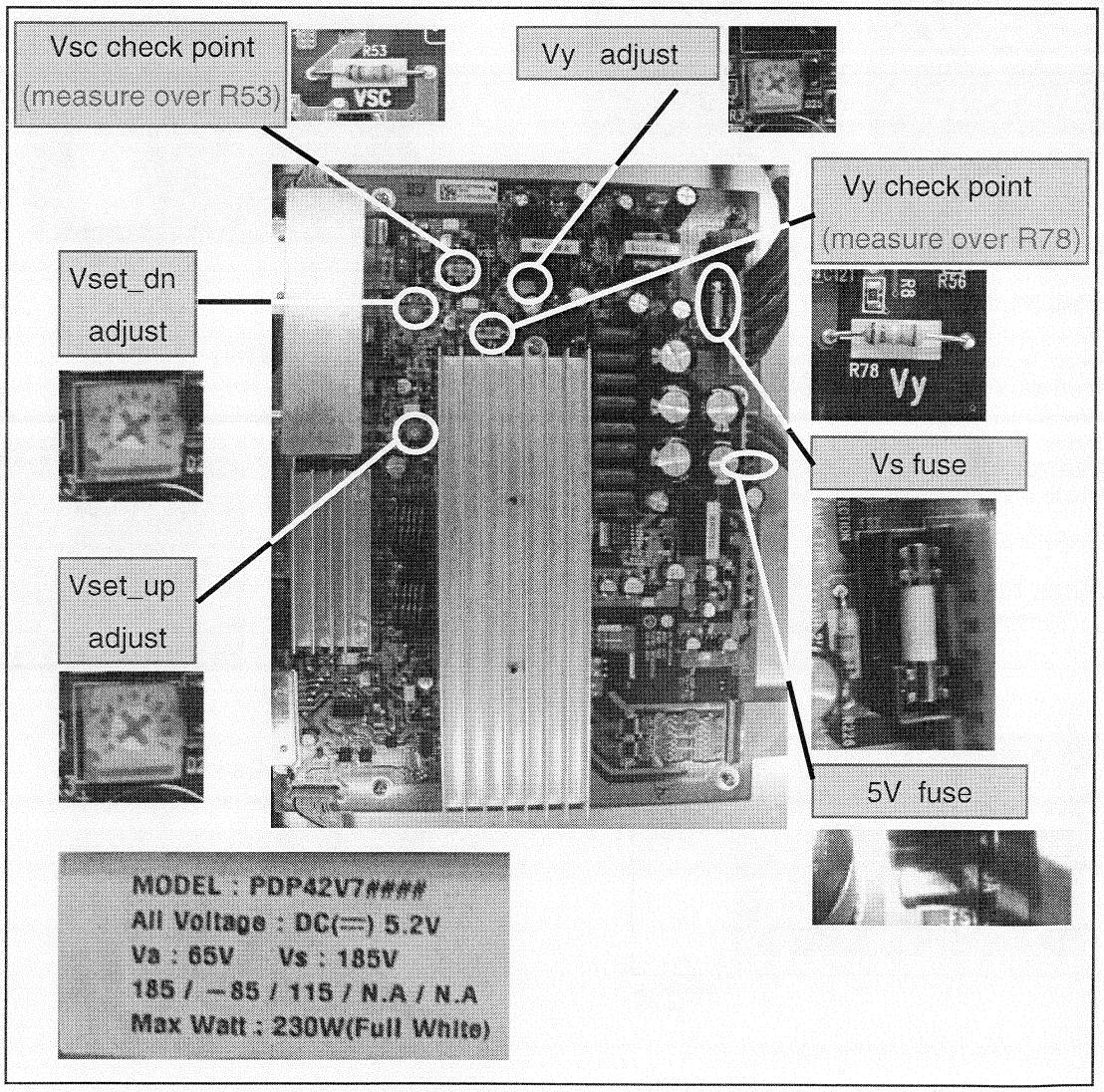

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Figure 5-11 Y-SUS b/d trouble shooting

Z-SUS Board

1. Check the fuses.
2. Check input voltages (Va, 5V, and 15V)
3. Check FPC output diode value.

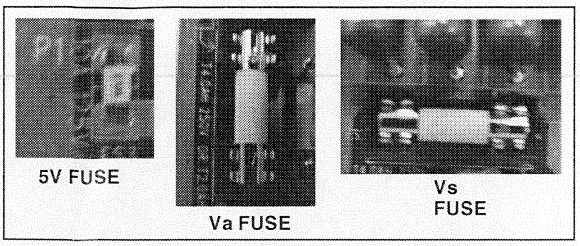

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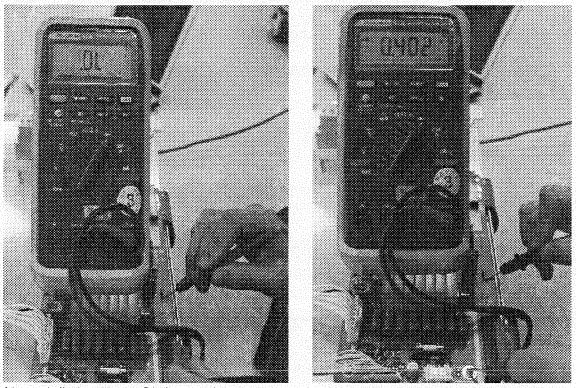
Figure 5-12 Z-SUS board fuse check



Normal diode value = OL (reverse)

Normal diode value = 0.4 (forward)

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Figure 5-13 Z-SUS board FPC output diode check

5.1.2 Bar Defect (Vertical)

Check each section with following method. If there is a problem, replace or repair that part. If not go to the next section.

Connector

Check the TCP connector and cables. If not connected well, it will result in a bar defect and abnormal display behaviour.

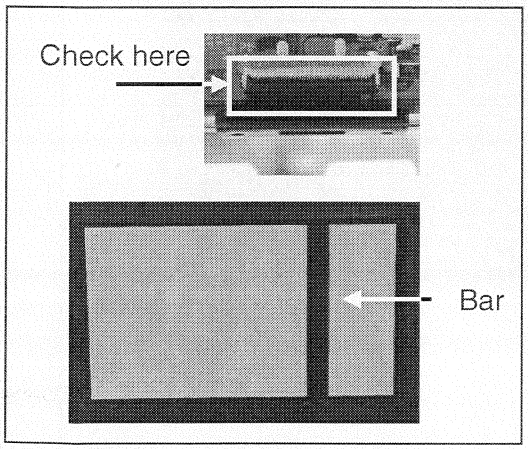

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Figure 5-14 Connector check (1)

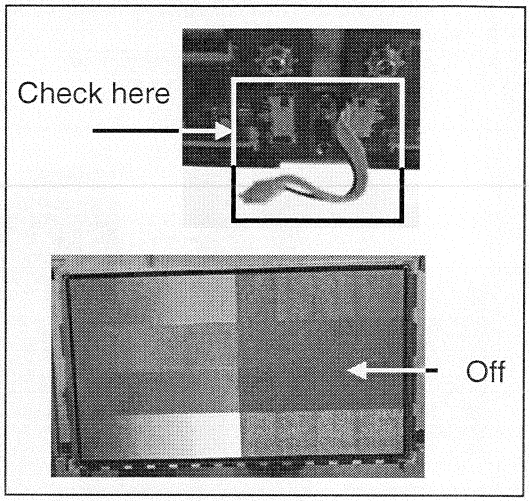

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Figure 5-15 Connector check (2)

Checking TCP

Confirm whether the TCP was torn or chopping.

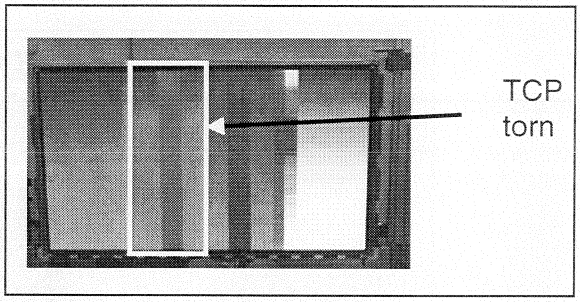

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Figure 5-16 TCP torn

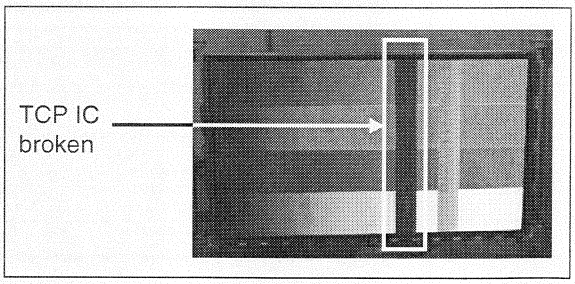

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Figure 5-17 TCP IC broken

Control Board
The Control board supplies the video signal to the TCP. So, if there is a bar defect on screen, it may be a Control board problem.

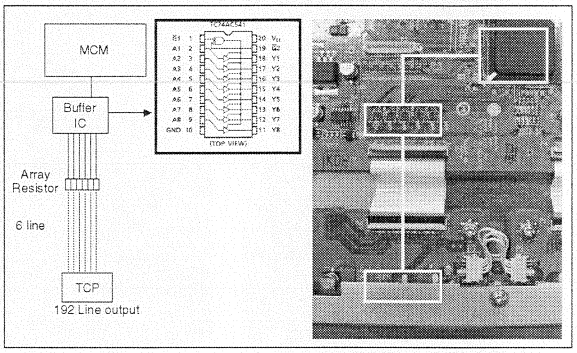

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Figure 5-18 Control board address flow

5.1.3 Line Defect (Vertical)

In case of one line open or shorted, check dirt (foreign substances) in TCP connector. First, try to remove the dirt with compressed air. If, after this, the same line appears again, replace the panel.

Line Open or Short
This phenomenon is due to TCP IC inside short or electrode problem. In this case, replace the panel.

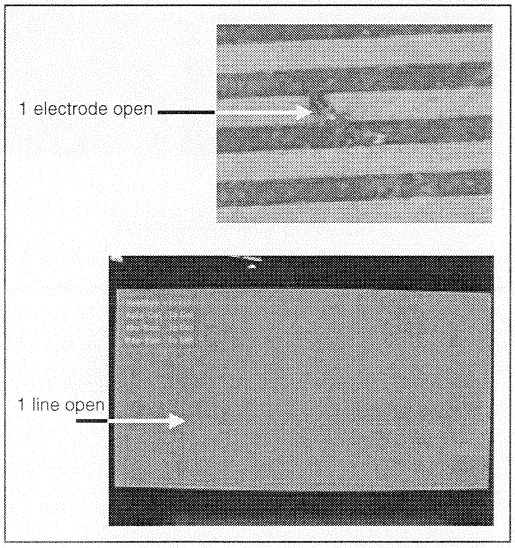

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Figure 5-19 Single line defect

Line Open or Short with the Same Distance
This is MCM of Control board defect. The MCM cannot be replaced separately. So replace the Control board.

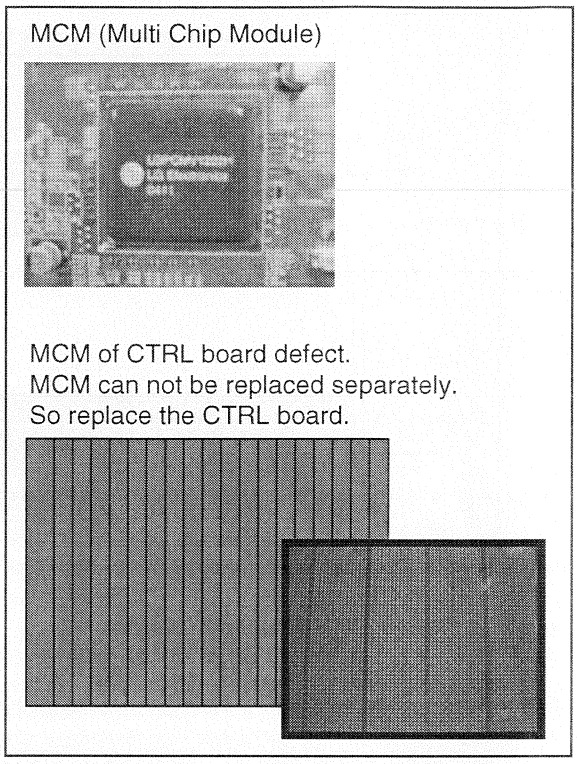

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Figure 5-20 Evenly repeated lines

5.1.4 Bar Defect (Horizontal)

Most horizontal defects can be repaired. In case of adherence part of the film and rear panel electrode, or panel electrode open/short, replace the PDP panel.

Connector
If the connector on Y board and Z board are not plugged in well, it can result in a horizontal bar, because the sustain voltage Cannot be supplied to panel. So check connectors FPC and Ydrv-Ydrv first.

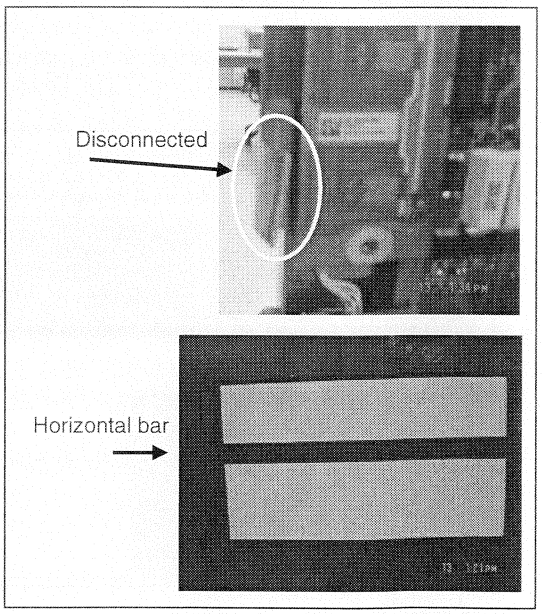

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Figure 5-21 Check FPC connectors

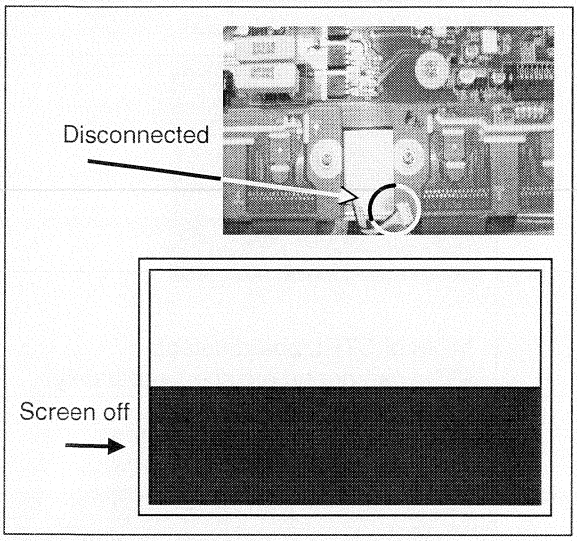

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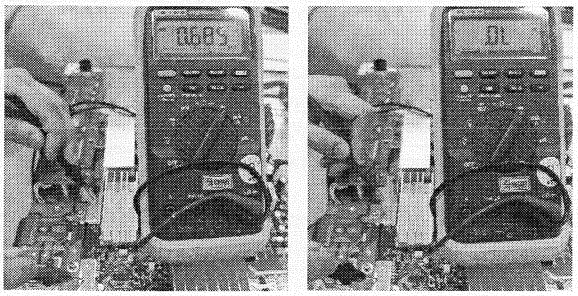
Figure 5-22 Check drive connectors

Scan IC Check
Check diode value of the right side part of the output pin.



Normal diode value= 0.6 (forward)
Normal diode value= OL (reverse)

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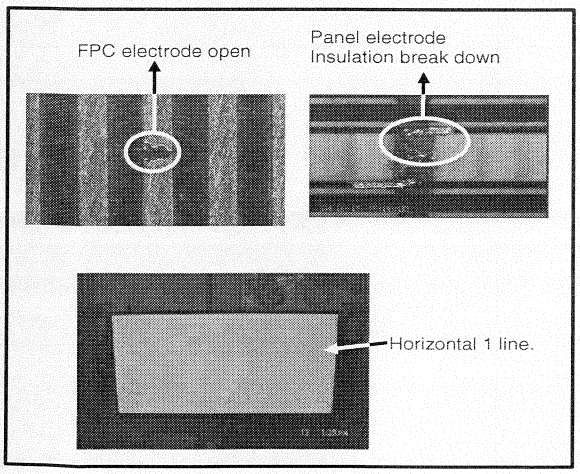
060705

Figure 5-23 Scan IC output diode check

5.1.5 Line Defect (Horizontal)

FPC Check
In case of one or more horizontal lines, this is probably due to FPC or panel inside the Control board. Y board is just normal.



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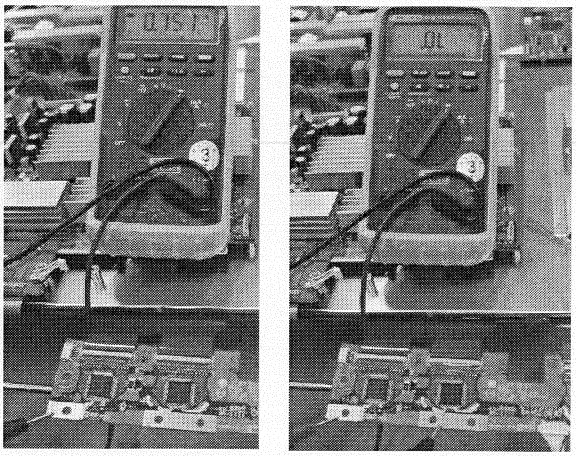
070705

Figure 5-24 Open FPC electrode / Panel electrode breakdown

Scan IC Check
Check diode value of the right side part of the output pin.

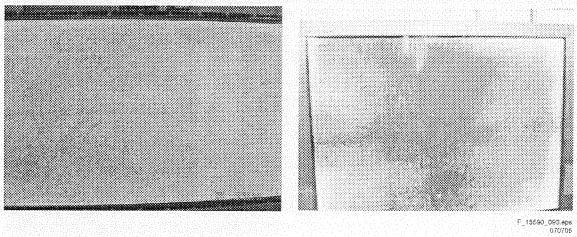


F_15590_091.eps
290605

Figure 5-25 Scan IC output diode check

5.1.6 Mis-discharge Defect

Most of mis-discharge appearance is a problem of Y-DR, Y-SUS, or Z board.
Check these boards when mis-discharge occurs.



F_15590_093.eps
070705

Figure 5-26 Mis-discharge

Checking Order
1. Check Y- and Z-SUS signal cable.
2. Check if Y-DRV IC is defective.
3. Check Y-SUS board voltages (-Vy, Vscw)
4. Check if Y- and/or Z-SUS IPM are defective (see paragraph "How to Check IPM" below).
5. Replace Control board

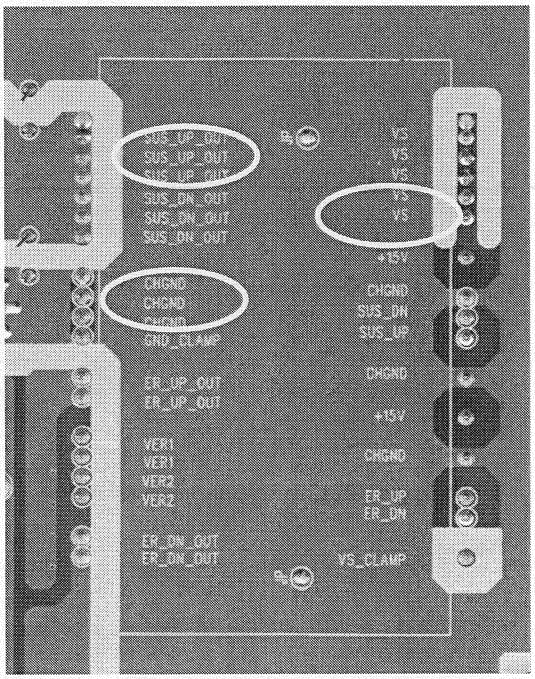
How to Check IPM

Forward direction
Measure between:
- GND (+) and Sus-out (-).
- Sus-out (+) and Vs (-).

When each two test diode values is over 0.4V => OK.

Reverse direction
Measure between:
- GND (-) and Sus-out (+).
- Sus-out (-) and Vs (+).

When each 4 nodes test diode values is infinite => OK



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060705

Figure 5-27 IPM check

5.2 Detailed Module Check PDP42V7*

5.2.1 No Display

The Screen Does Not Display a Picture

1. Check whether on the CTRL board LED (D1, D2, D3, D4, and D5) is turned "on" or not.
2. Check the power and signal cable of the CTRL board.
3. Check if the X, Y, and Z boards are plugged in correctly.
4. Check the connection of the X, Y, and Z boards to the CTRL board.
5. Measure the output wave of X, Y, and Z boards with an oscilloscope (> 200 MHz) and find the trouble board by comparing the output wave with below figure.
   - Measure point for Y board: Bead B39.
   - Measure point for Z board: Bead B28.
   - Measure point for X board: P3.
6. Check the SCAN (Y side) IC.
7. Check the DATA (X side) TCP IC.
8. Replace the CTRL board.
9. Check if the fuse of Y and/or Z board is open and replace when open.
10. Check the input voltage (Vcc= 5 V, Va= 65 V, Vs= 187 V).

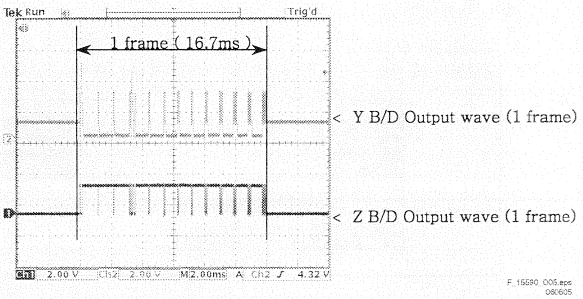

Figure 5-28 Y and Z board output waveform (1 Frame)

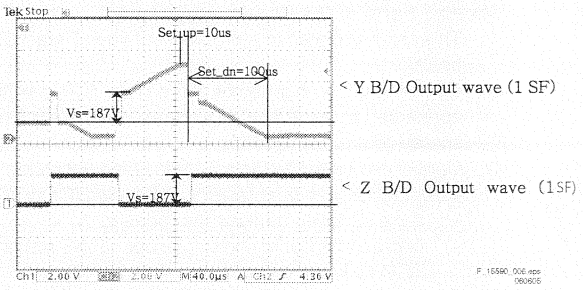

Figure 5-29 Y and Z board output waveform (1 Sub Frame)

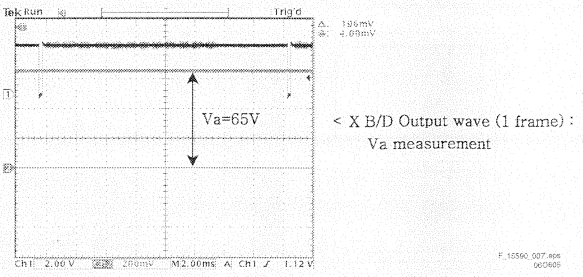

Figure 5-30 X board output waveform (1 Frame)

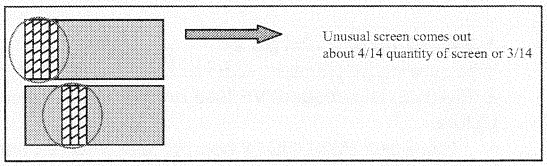

Figure 5-36 Case 3

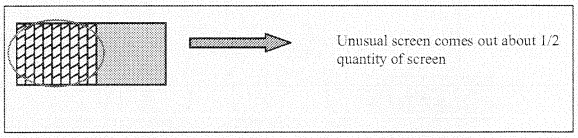

Figure 5-37 Case 4

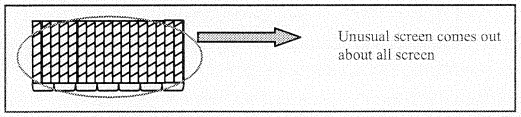

Figure 5-38 Case 5

Regular Stripe on Display

1. In case of the generation of regular vertical stripes around the location of one Data TCP IC (or more), check the connections.
2. Confirm if the connection of X board or CTRL board to X board correspond to unusual screen.
3. Replace the relevant X board or CTRL board.

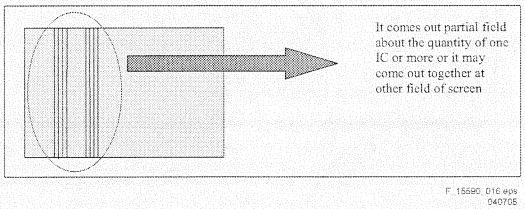

Figure 5-39 Screen display "Regular stripes"

Scan FPC Problem

1. Check the connection between Y DRV board and Scan FPC.
2. If the Scan IC is defective, replace the Y DRV board.

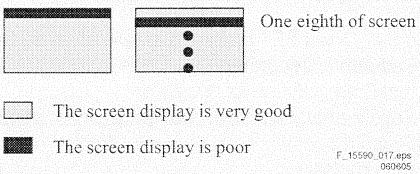

Figure 5-40 Screen display "Scan FPC problem"

- Check method of the SCAN IC
  - Change the Vpp pin into ANODE and GND pin into CATHOD, and then test the diode in forward or reverse direction.

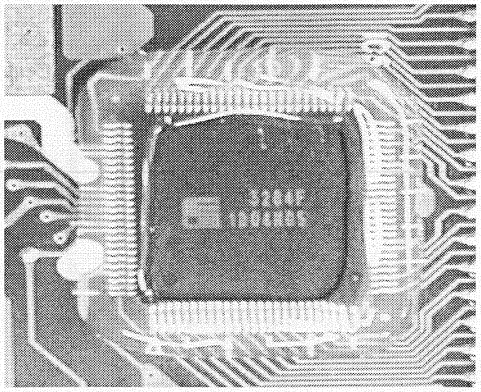

Figure 5-41 Scan IC

Vertical Line with Regular Gap (Vertical Stripe Flash at Special Colour)

- Replace the CTRL board.

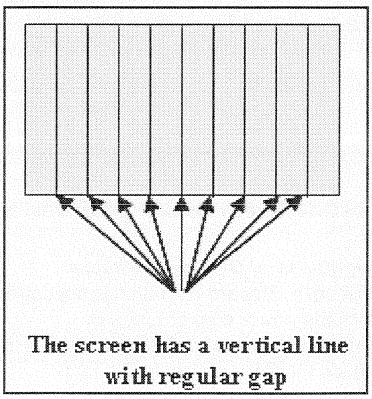

Figure 5-42 Screen display "Vertical lines with regular gap"

Data Copy into Vertical Direction

- Replace the Y-DRV board or Y board.

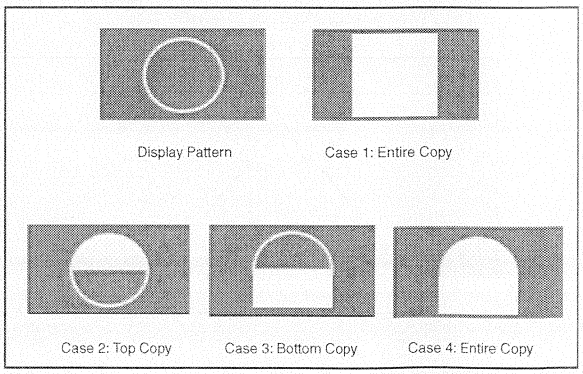

Figure 5-43 Screen display "Data copy in vertical direction"

One or Several Vertical Line(s) on the Screen

1. It may be caused by:
   - Open or short on DATA TCP FPC attached panel.
   - Defect on DATA TCP attached panel.
2. Replace Module.

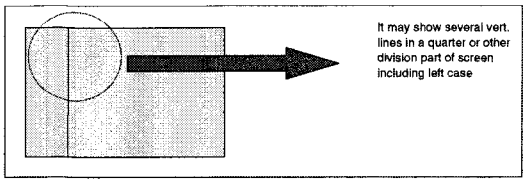

Figure 5-44 Screen display "Vertical lines"

One or Several Horizontal Lines on the Screen

1. It may be caused by:
   - Open or short on SCAN FPC attached panel.
   - Defect on SCAN IC attached panel.
2. Replace Y DRV board.

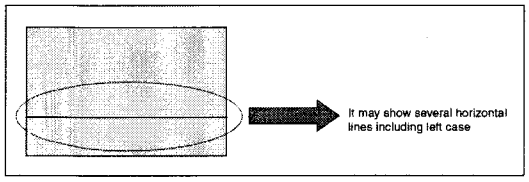

Figure 5-45 Screen display "Horizontal lines"

Low Brightness of Displayed Picture

1. In this case, Z board operation is not correct.
2. Check the power cord of Z board.
3. Check the connector of Z board and CTRL board.
4. Replace the CTRL board or Z board.

Partially Other Colour on Full White Screen or Partially Discharge on Full Black Screen.

1. Check the declination of Y board set-up and set-down wave.
2. Measure each output wave with oscilloscope (> 200 MHz) and compare the data with below figure data. Adjust the Y board Set_up (A) and Set_down (B) declination by changing VR1 and VR2 as written on the adjustment label.
   - Measuring Point of Y board: B39

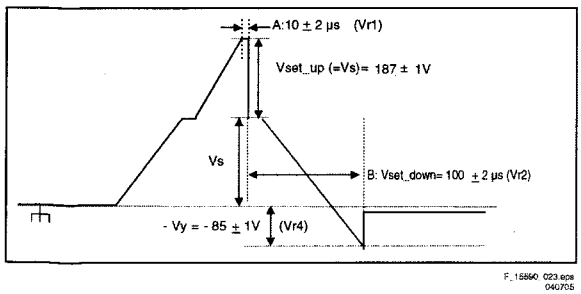

Figure 5-46 Y output voltage waveform

No Specified Brightness at Specified Colour

1. Check the connector of CTRL board input signal.
2. Replace the CTRL board.

5.2.3 Checking for Component Damage

Y IPM (IC 15) or Z IPM (IC 2)

When the internal Sustain_IGBT or ER_FET of Y IPM (IC15) or Z IPM (IC2) is damaged, VS fuse is open and there will be no picture.

- Test Point: B32-GND (Y board), B28-GND (Z board).
- Wave format: B32 (Y board) or B28 (Z board) has no output wave.
- Measure position: Sustain section, B32 wave of Y board and B28 wave of Z board (full white pattern).

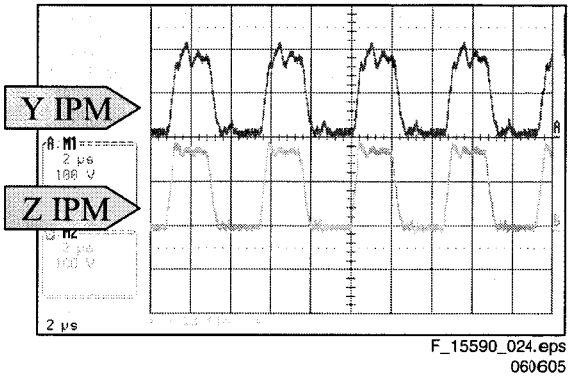

Figure 5-47 IPM normal output

Pass_Top FET (Y board: HS2)

When the Pass_Top FET is damaged, electric discharge of the entire screen is generated.

- Test Point: GND-B32 (Y board)
- Wave format: When the Set_dn does not descend until-Vy.

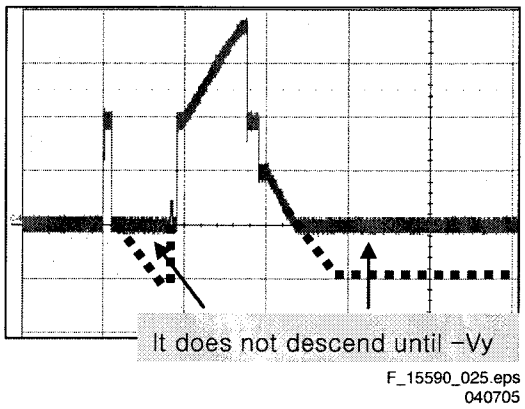

Figure 5-48 Pass-Top FET defective

FET Assy (Y board: HS1)

When Set_Up FET is damaged, there will be no picture.

1. Test Point: GND-B32 (Y board)
   - Wave format: Set_up waveform is not generated.
2. When Set_Down FET is damaged, electric discharge of entire screen is generated.
   - Test Point: GND-B32 (Y board)
   - Wave format: Set_down waveform is not generated.
   - Measure position: Reset wave of B32 (Y board) (full white pattern)

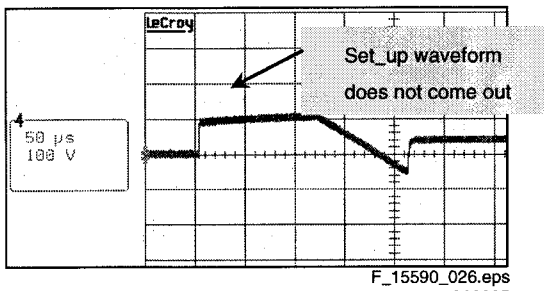

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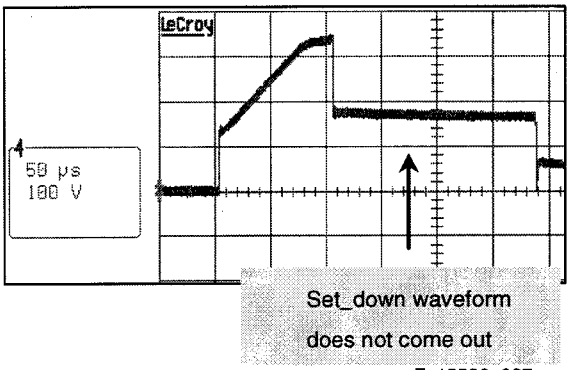
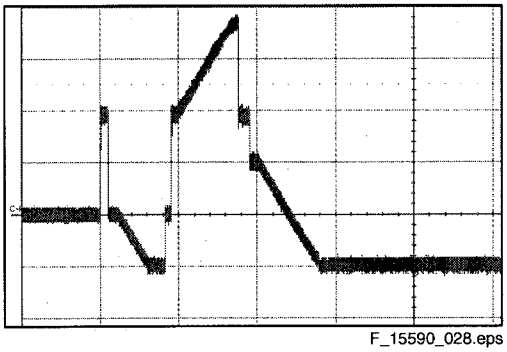
Figure 5-49 Set_Up FET defective



F_15590_027.eps
060605

Figure 5-50 Set_Down FET defective

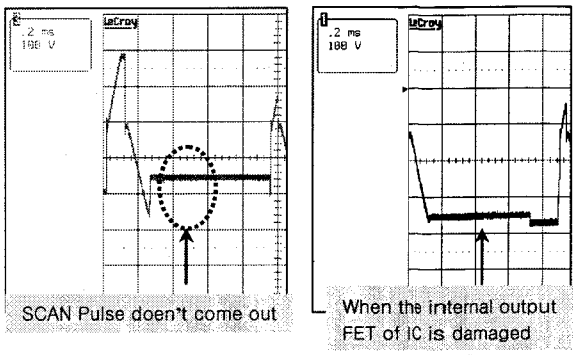


F_15590_028.eps
060605

Figure 5-51 Reset section normal output

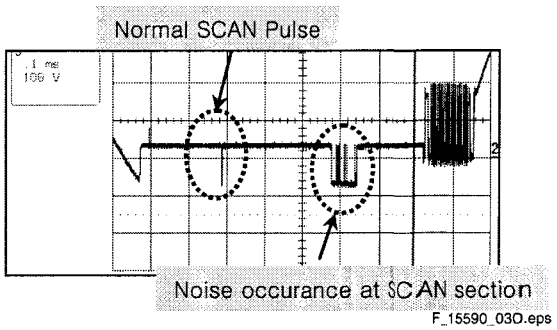
SCAN IC (Y-DRV board: IC1-8)

1. In case of the SCAN IC is damaged, one horizontal line may be open on the screen.
   - Test Point: ICT measurement of GND-Y DRV board output.
   - Wave format: As shown below figure.
2. When the SCAN IC is damaged (poor, external electricity, or spark), there might be no picture.
   - Test Point: ICT measurement of GND-Y DRV board output
   - Wave format: Output wave format is not generated (you can see if Y DRV board Top or Bottom's SCAN IC is damaged).
3. Screen shaked horizontally when Y DRV board Top and Bottom cable is damaged.
   - Test Point: ICT measurement of GND-Y DRV board output.
   - Wave format: As shown in figure "Y DRV board Top and Bottom cable damaged".
4. Overlap of two horizontal lines on the screen in case of shorted SCAN IC output.
   - Test Point: ICT measurement of GND-Y DRV board output.
   - Wave format: As shown in figures "SCAN IC shorted output" and "SCAN IC normal output".
   - Measurement point: SCAN section, output ICT of Y DRV board (full white pattern).



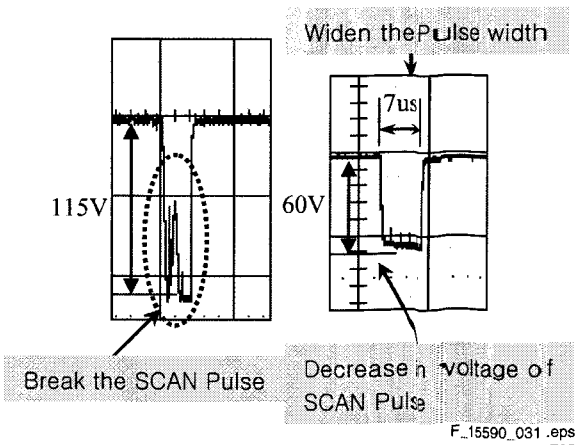
F_15590_029.eps
060605

Figure 5-52 SCAN IC defective



F_15590_030.eps
060605

Figure 5-53 Y DRV board Top and Bottom cable damaged



F_15590_031.eps
040705

Figure 5-54 SCAN IC shorted output

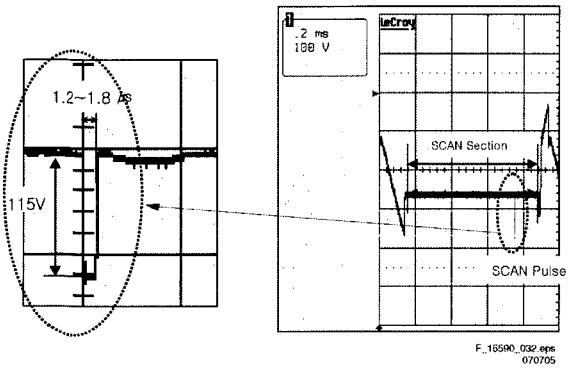


Figure 5-55 SCAN IC normal output

TCPs

1. In case of shorting or opening of TCP IC output, it may show one or several vertical lines.
   - Test Point: Output TP of GND-TCP
   - Wave format: As shown in figure below. In case of normal wave output, when STB signal is generated, the output must maintain "high". When STB signal is generated again, the output must fall to "low". But when the TCP IC is damaged, the STB signal is not generated, and the output falls to "low".
2. In case of a damaged TCP IC or power resistance, the screen is not shown or discharges partially.
   - Test Point: Output TP of GND-TCP
   - Wave format: Output wave is not generated.

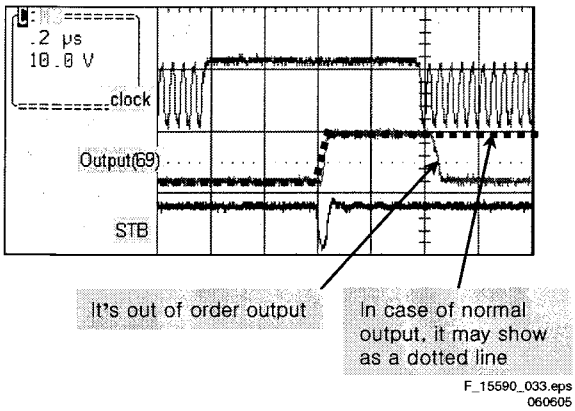


Figure 5-56 COF IC output defective

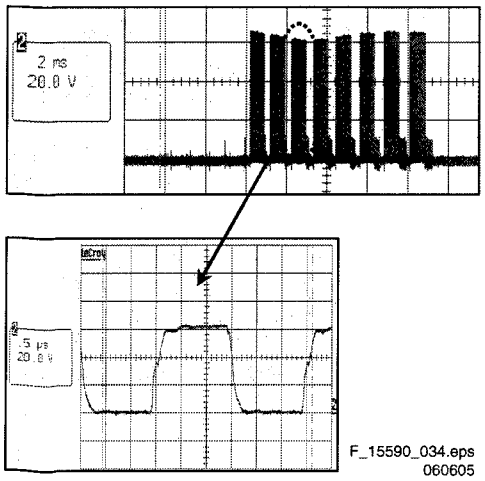


Figure 5-57 TCP normal output

Crystal (CTRL board: X1)

1. When a crystal is damaged, the screen is not shown.
   - Test Point: Measuring 3-pin of GND-Crystal (CTRL board: X1).
   - Wave format: Output wave is not generated.
2. In case of unusual start-up of the crystal, the screen may blink.
   - Wave format: As shown in figure below.
   - Measurement position: Measuring output 3-pin of crystal (X1: 100 MHz) on CTRL board (full white pattern).

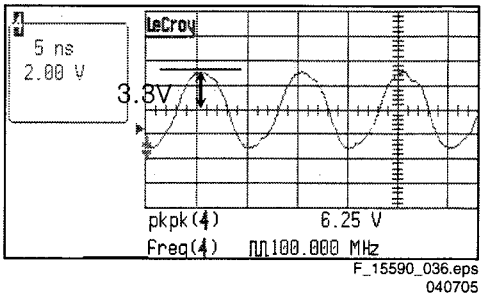


Figure 5-58 Crystal normal output

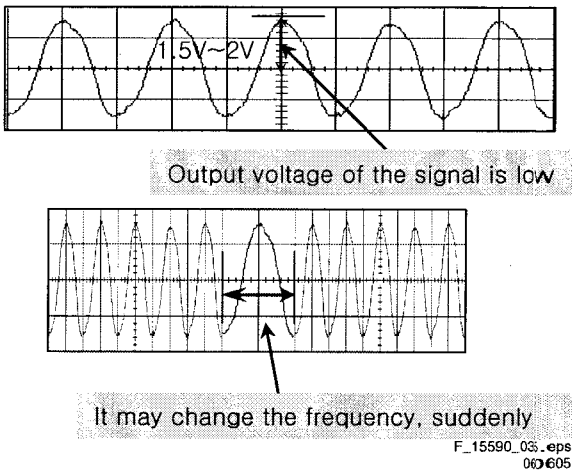


Figure 5-59 Crystal defective output

5.3 Detailed PSU Check PDP42V7*

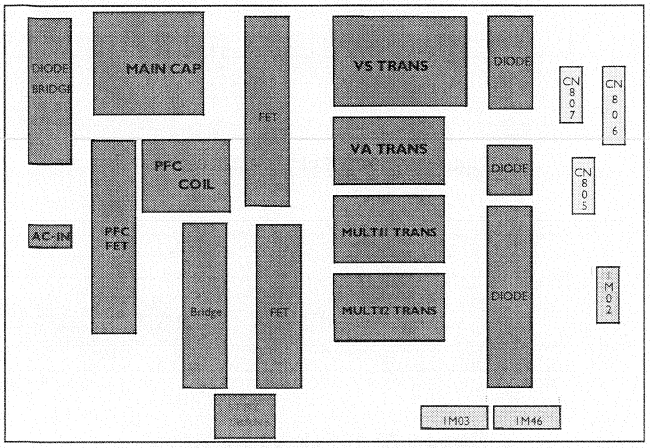


Figure 5-60 PSU top view

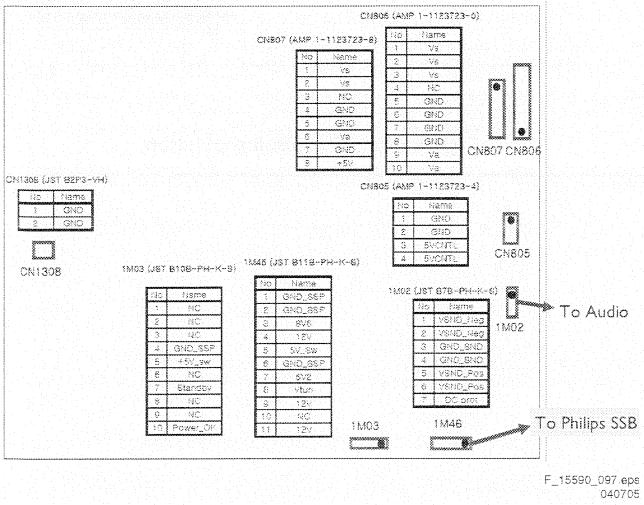


Figure 5-61 PSU Connector I/O pin assignment

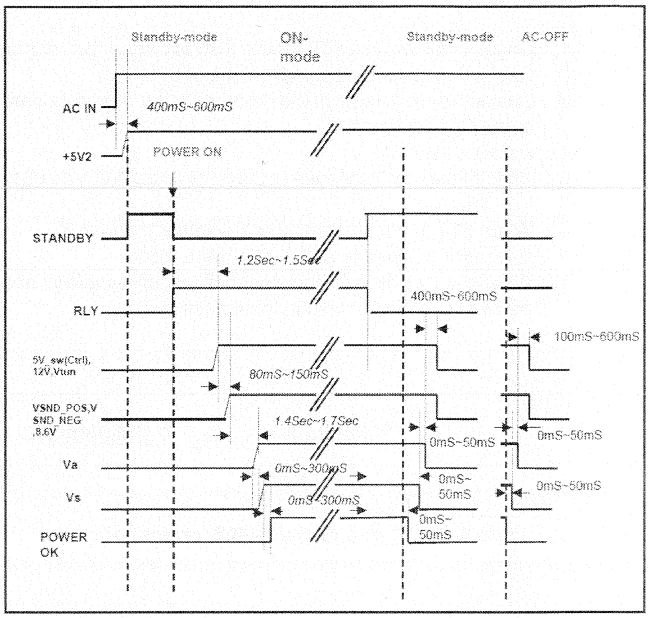


Figure 5-62 PSU "on/off" sequence in "Normal" mode

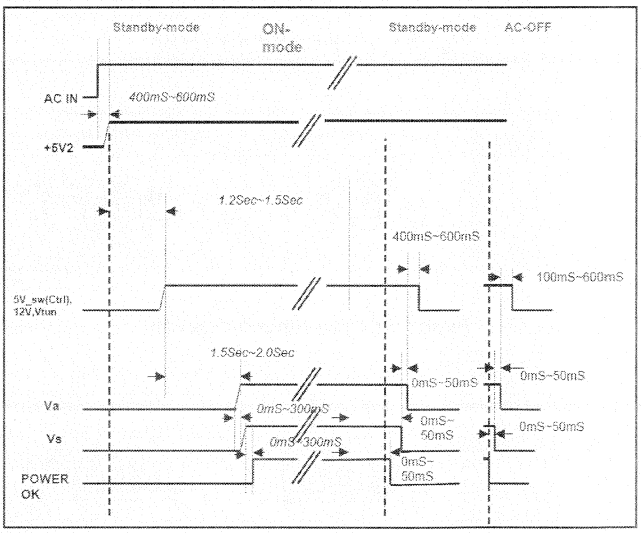


Figure 5-63 PSU "on/off" sequence in "Auto" mode

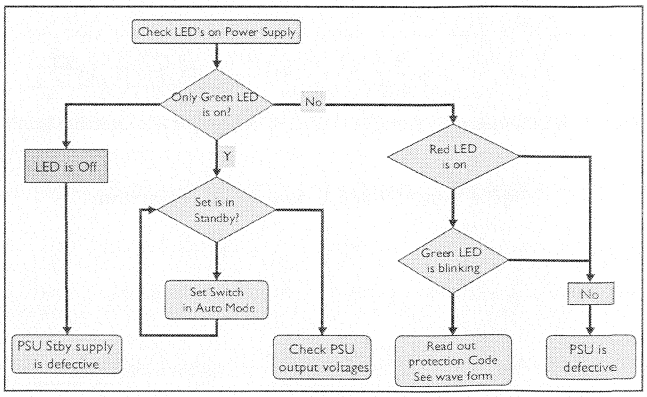


Figure 5-64 PSU Fault finding tree

5.3.1 No Display

1. Check whether the LED1 of the PSU is turned "on" or not.
2. Check the power and signal cables of the PSU.
3. Check the connection of the X board, Y board, and Z board to the Control board.
4. Replace the PSU
5. Check the output voltages of the PSU (Vcc= 5V, Va= 65V, Vs= 187V).
6. When 5V2 is not present, check whether the fuse is shorted or opened in AUTO/NORMAL mode.
7. When the PSU is in protection mode, check waveform and count of LED1 as shown in the figures below.

LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
Continuous flicker	LED OFF / LED ON 	LED OFF / LED ON 

*Time period : LED ON/OFF repeat an interval 200ms

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Figure 5-65 DC-port signal (1M02) protection

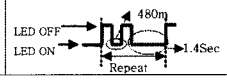
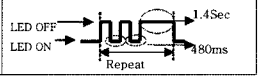
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
2		

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Figure 5-66 Vs output protection

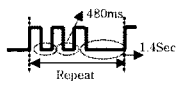
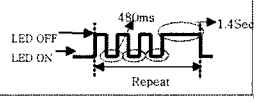
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
3		

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Figure 5-67 Va output protection

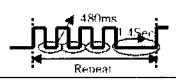
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
4		

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Figure 5-68 5V output circuit protection

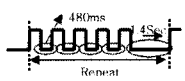
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
5		

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Figure 5-69 12V and V_tun circuit protection

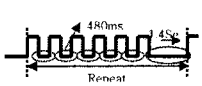
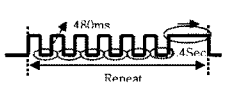
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
6		

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Figure 5-70 +18V circuit protection

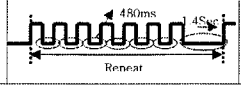
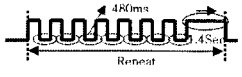
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
7		

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Figure 5-71 +8V6 circuit protection

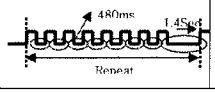
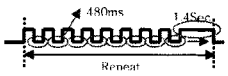
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
8		

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Figure 5-72 -18V circuit protection

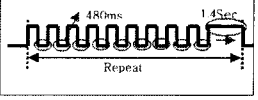
LED Count	OCP [Over Current Protection]	OVP [Over Voltage Protection]
9		

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Figure 5-73 PFC circuit protection

5.4 Defect Description Form

This form must be used by the workshops for warranty claims:

DDF FLAT TV (panels & boards) version 1.1 — Date last modified: 08/03/2005

To be filled in by WORKSHOP / WORK CENTER

Country:	Philips	Type nr./Model nr. set	
		Serial nr. set	
Customer Account nr.:	LCD & Plasma	Type nr. display	
	DEFECT DESCRIPTION	Serial nr. display	
Job sheet nr.:	FORM	Part nr display (12nc)	
		Return number	0170 _ _ _ _ _ _

GENERAL REPAIR DATA

Condition	❒ Constantly	❒ In a hot environment
	❒ Intermittently	❒ In a cold environment
	❒ After a while	❒ Other : .....
Symptom(s)	❒ No backlight	❒ Flickering / flashing picture
	❒ No picture	❒ Lines across/down image
	❒ Picture too bright	❒ Inactive row(s)
	❒ Shading / smearing on picture	❒ Inactive column(s)
	❒ Only partial picture	❒ Missing colour(s)
	❒ Unstabel picture	❒ Other: ....

PANEL REPAIR

Pixel Defect(s):	❒ Dark dots ❒ Bright dots	Qty of dots :	Mark Defect(s)	--------- Picture --------- Insert picture or mark defect !

Symptoms Out of warranty	Following defect symptoms are out of warranty:	These symptoms are not claimable
	• Broken glass • Scratch(es) on display	• Number of dark/bright pixels within spec. • Burn in (only for Plasma TV)

BOARD REPAIR

For Plasma TV repair only

	Spare Part Nr. New Board	Barcode Nr. Defect Board	Barcode Nr. Replaced Board
1.			
2.			
3.			
4.			

To be filled in by EUROSERVICE	RMA number:	Date of receipt:

Note 1: The defective LCD-panel / PDP needs to be returned in the same packaging as the new part was send.If not the warranty claim will be rejected.

Note 2: Please fill out this form completely and correctly, otherwise Euroservice is unable to fulfil the repair request!

Owner: PHILIPS CE EUROSERVICE — DE10WE(

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Figure 5-74 Defect Description Form (DDF)

6. Block Diagrams, Test Point Overviews, and Waveforms

Not applicable

7. Circuit Diagrams and PWB Layouts

Not applicable

8. Alignments

Index of this chapter:

8.1 General

Notes:

1. Allow the set to warm up according conditions below for at least 10 minutes before adjusting.
   - Service signal: 100% Full White.
   - Service DC voltage: Vcc= 5 V, Va= 65 V, Vs= 187 V.
   - DC/DC Pack voltage: Vsc= 115 V, -Vy= -85V
   - Preliminaries environment: Temp (25 ± 5 deg. C), Relative Humidity (65 ± 10%).
2. Module adjustment should follow below sequence.
   - First, set up the Vsc / -Vy voltage (Vsc= 115 V, -Vy= -85 V).
   - Then, adjust the voltage waveform (refer to adjustment).

Caution: Do not leave a still image for more than 10 minutes (especially The Digital pattern or Cross Hatch Pattern which has clear gradation) on the display, because this will cause burn-in effects.

8.2 Alignment PDP42V7*

8.2.1 Connection Diagram and Set-Up

1. For the connection diagram of the measuring instrument, refer to Fig. "Measuring equipment connection diagram".
2. Set-up the initial voltage (voltage label) Vcc= 5 V, Va= 65 V, Vs= 187 V. Note that the initial set-up voltage can be changed according to the module's characteristic.

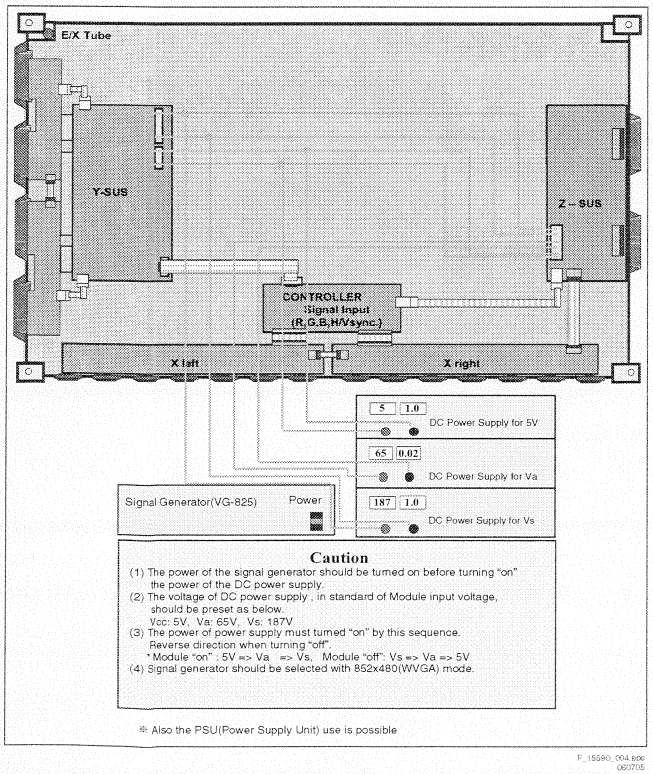

Figure 8-1 Measuring equipment connection diagram

8.2.2 Tools

1. Digital oscilloscope: > 200 MHz.
2. DVM (Digital Multimeter): Fluke 87 or similar.
3. Signal generator: VG-825 or similar.
4. DC power supply or PSU:
   - DC power supply for Vs (1): 0 - 200 V, > 10 A.
   - DC power supply for Va (1): 0 - 100 V, > 5 A.
   - DC power supply for 5V (1): 0 - 10 V, > 10 A.
   - DC/DC converter jig (1): The jig with an equivalent voltage output of PDP42V7#### module after taking the Vs, Va, and 5V voltage.
   - Voltage stability of power supply: Within ± 1% for Vs and Va, within ± 3% for 5V.

8.2.3 Alignments

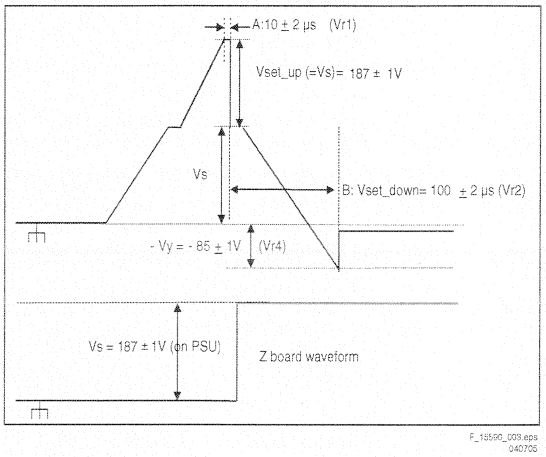

Figure 8-2 Y, Z set-up waveform

Vset-up Alignment

Adjusting **Vset-up** voltage wave form:

1. Connect the measuring instruments according to Fig. "Measuring equipment connection diagram".
2. Turn on the measuring instruments with "Caution" of Fig. "Measuring equipment connection diagram".
3. Connect the oscilloscope probe to B39 (Bead) of Y board bottom and GND.
4. Turn the VR1 on the Y board, and make the "A" waveform according to Fig. " Y, Z set-up waveform " to be 10 ± 2 µs.

Vset-down Alignment

Adjusting **Vset-down** voltage wave form:

1. Turn the VR2 on the YSUS board and make the "B" waveform according to Fig. " Y, Z set-up waveform " to be 100 ± 2 µs.

DC/DC Pack Voltage Alignment

Checking the **DC/DC Pack** voltage:

1. Convert the signal of the signal generator to a 100% Full White signal.
2. Connect the GND terminal of the DVM to the right leg of R53 on the Y board, and set the Plus terminal to the left leg of R53 to check the Vsc voltage (115 ± 1 V) and when there is abnormality in the voltage, turn the variable resistor (VR3) of DC/DC Pack (Vsc) PS1 on the Y board to adjust.
3. Connect the GND terminal of the DVM to the right leg of R78 on the Y board and set the Plus terminal to the left leg of R78 to check the -Vy voltage (-85 ± 1 V) and when there is abnormality in voltage turn the variable resistor (VR4) of the DC/DC Pack (-Vy) PS1 on the Y board to adjust.

Vs Alignment on PSU

This describes the Vs alignment on the PSU:

1. Set the switch on the PSU to "AUTO".
2. Connect Mains/AC Power (from Mains Filter) to the PSU board (CN1308).
3. Connect a multimeter between CN06-Vs and ground (e.g. frame).
4. Align Vs with the upper potmeter (VR501) to:
   - 184 V for the PDP42V7**A062** and PDP42V7**K062** models (different from label !).
   - 187 V for the other V7 models (as printed on label).
5. Set the switch on the PSU back to "NORMAL".

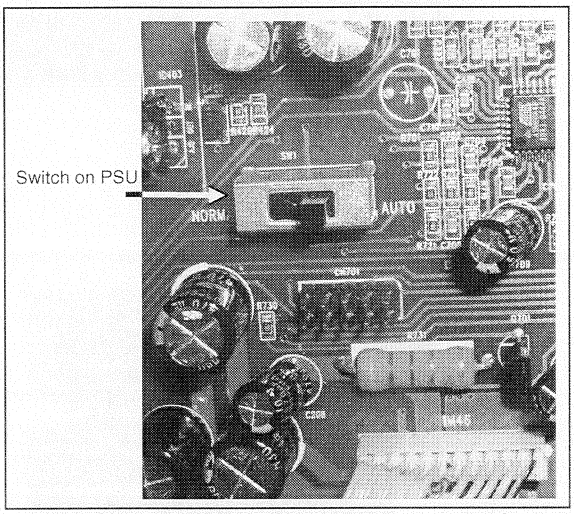

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Figure 8-3 Switch setting (Vs alignment step 1)

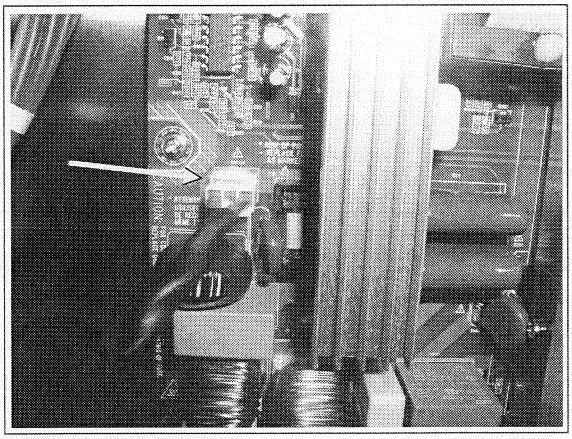

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Figure 8-4 Connect Mains (Vs alignment step 2)

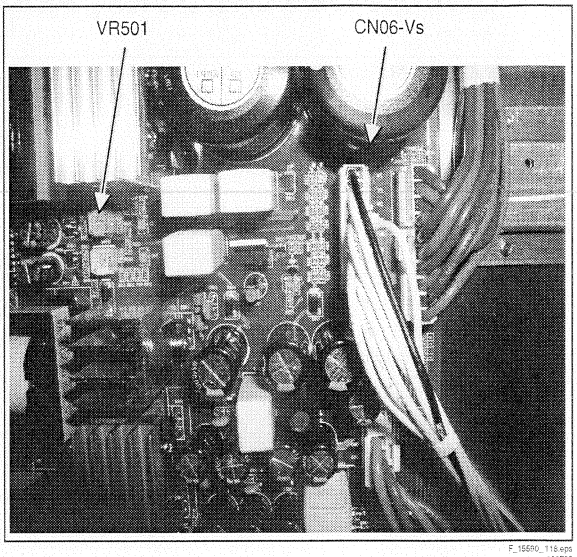

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Figure 8-5 Vs measure and alignment point (step 3 &4)

8.2.4 Internal Test Patterns

The CTRL board is capable of generating it's own video test patterns. There are two possibilities, both based on R406 and R407:

- R406 is open and R407 is fitted (= standard setting): the test pattern is a full black screen (**very low** light output).
- R406 is fitted and R407 is open (desolder R407 and mount it on pos. R406): the test patterns are shown in an automatic loop.

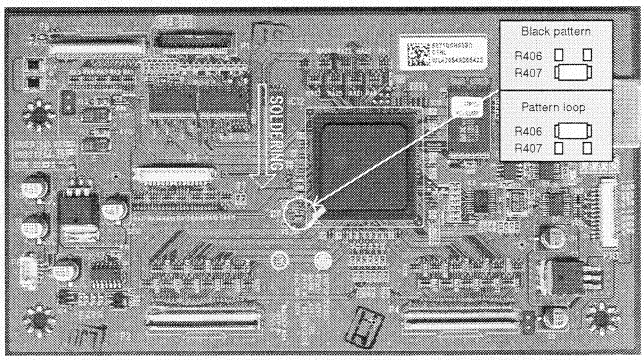

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Figure 8-6 Internal test pattern mode

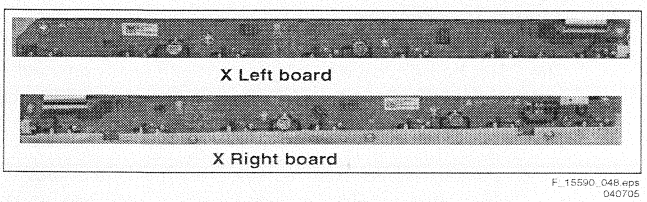
9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 X Board

9.1.1 Purpose

Receiving LOGIC signal from the CONTROL board and make ADDRESS PULSE (generates Address discharge) by ON/OFF operation, and then supplies this waveform to TCP (data).



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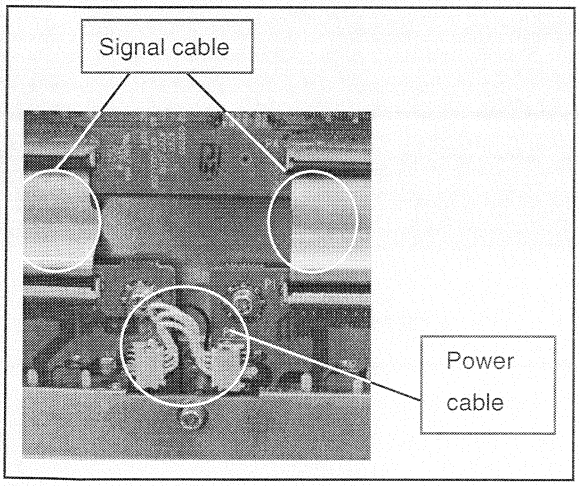
040705

Figure 9-1 X boards

9.1.2 Dismantling

1. Remove connections between the boards:



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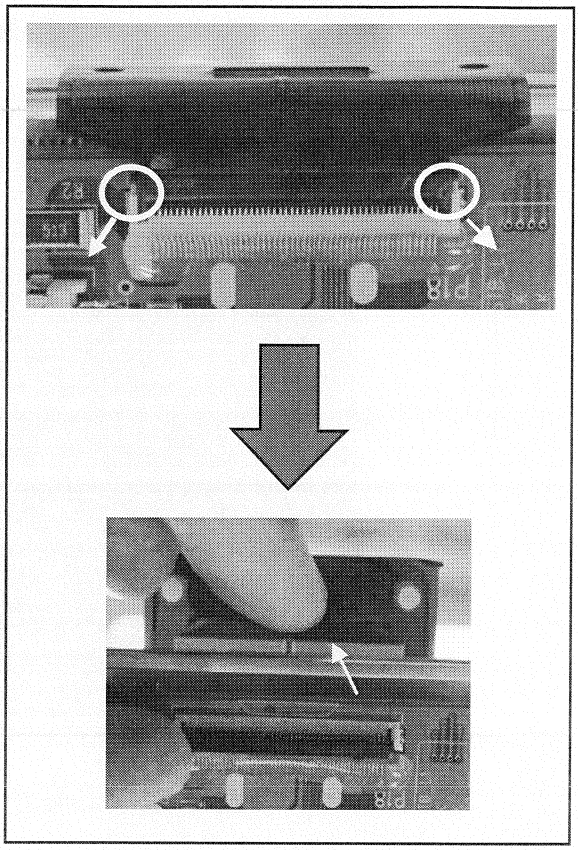
070705

Figure 9-2 Between CONTROL board and X board

1. Lift up lock as indicated by the arrows (handle with care, as this part is easy to break).
2. Pull TCP as indicated (handle with care, as the TCP film part is easy to damage).



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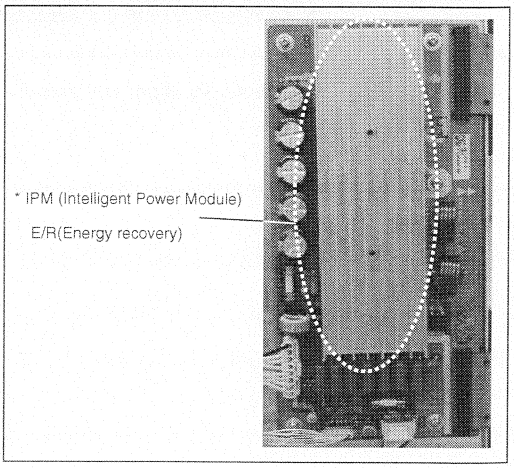
040705

Figure 9-3 TCP Separating

9.2 Z Sustain Board

9.2.1 Purpose

To make the SUSTAIN and ERASE pulses that generates SUSTAIN discharge in the panel by receiving LOGIC signal from
CONTROL board. This waveform is then supplied to the panel through FPC (Z).



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040705

Figure 9-4 Z Sustain Board

9.2.2 Main Components

IPM, FET, DIODE, electrolytic capacitor, and E/R coil.

9.2.3 Dismantling

1. Pull out Locks as indicated by the arrows.
2. Condition in Lock part is pulled.
3. Pull FPC as shown by arrow.

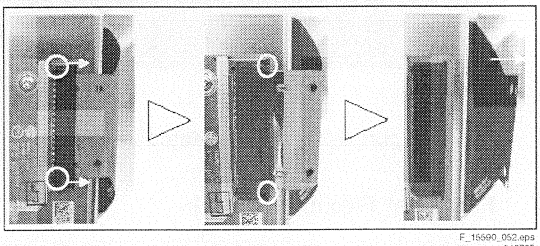

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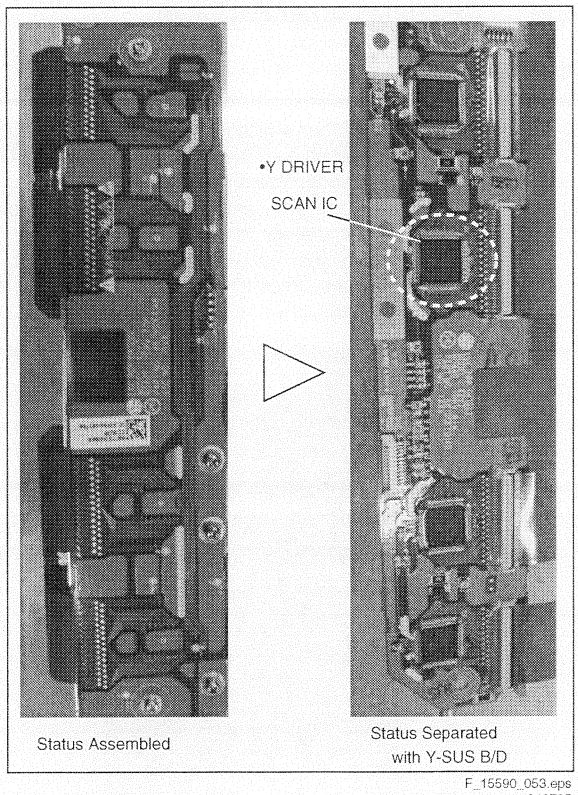
Figure 9-5 FPC Separating

9.3 Y Drive Board

9.3.1 Purpose

- To supply SUSTAIN, RESET waveform which are made by the Y SUSTAIN board and are supplied to the PDP through the SCAN DRIVER IC.
- To supply a waveform that selects the horizontal electrode (Y SUSTAIN electrode) sequentially.
  - Potential difference is 0 V between GND and Vpp of DRIVER IC in SUSTAIN period.
  - Being generated potential difference between GND and Vpp only in SCAN period.

Note: In case of 42" V7, used DRIVER SCAN ICs are in total of 8 EA (TOP, BOTTOM: each 4 EA).



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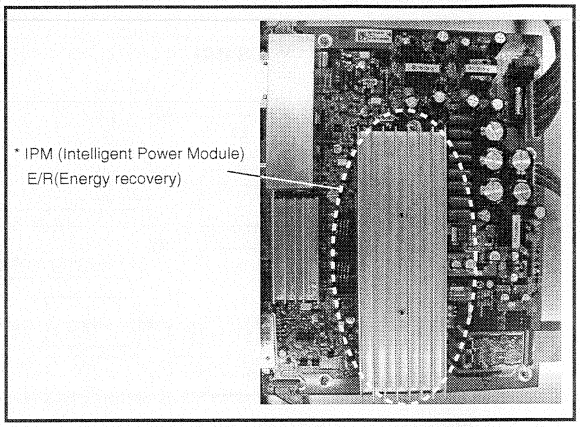
040705

Figure 9-6 Y Drive board

9.4 Y Sustain Board

9.4.1 Purpose

Generates SUSTAIN, RESET, and Vsc (SCAN) voltages, and supplies them to the Y DRIVE board.



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040705

Figure 9-7 Y Sustain board

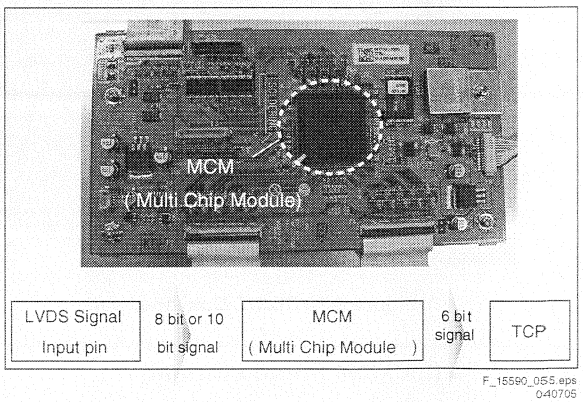
9.4.2 Main Components

IPM, diode, electrolytic capacitor, and FET.

9.5 Control Board

9.5.1 Purpose

Creates signal processing, and controls many FET on each DRIVER board with R, G, and B signals.
Firstly receive 5 V, and then use two voltages (3.3 V / 1.8 V).



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040705

Figure 9-8 Control board

9.6 DC/DC Converter Part

9.6.1 Purpose

From 5V, Vs, and Va (from PSU), the DC/DC converter makes 5V, 15V, Vy, Vsc, 5Vf, and Va, which are essential for each board.

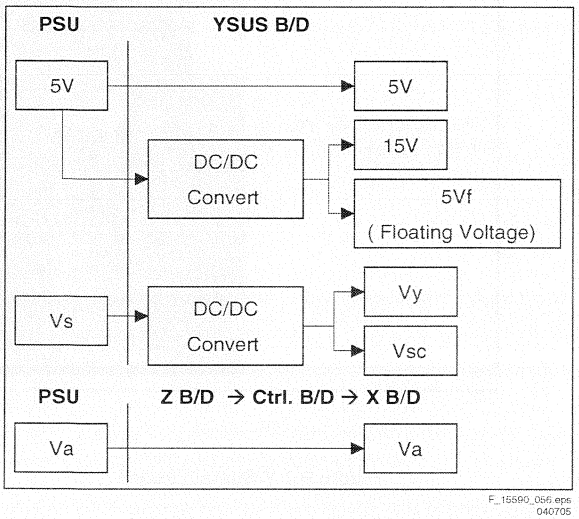

Figure 9-9 DC/DC Converter block diagram

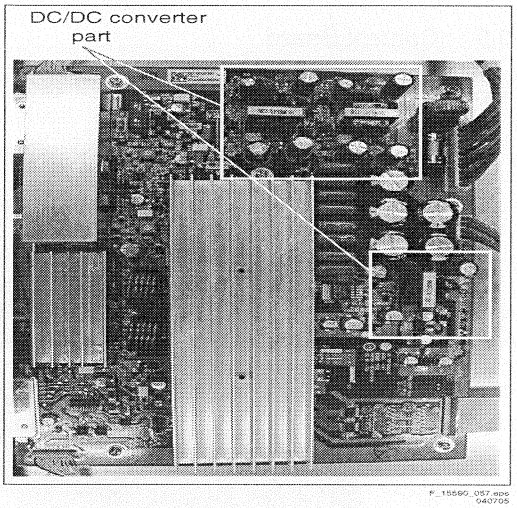

Figure 9-10 DC/DC Converter part

9.7 FPC (Flexible Printed Circuit)

9.7.1 Purpose

To supply a driving waveform to the PDP by connecting a PAD electrode of the PDP with a PWB (Y and Z boards).

- There are two types of this for the Y board: One is single-sided; the other is double-sided (these have a pattern on it).
- For Z board there is no pattern, single-sided, and Beta type (all of copper surface).

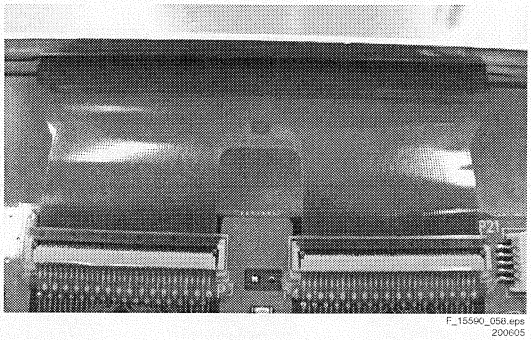

Figure 9-11 Flexible Printed Circuit

9.8 FFC (Flat Flexible Cable)

9.8.1 Purpose

For connecting LOGIC signals between boards. There are two types

- 0.5 mm pitch, 50-pin type.
- 0.5 mm pitch, 60-pin type.

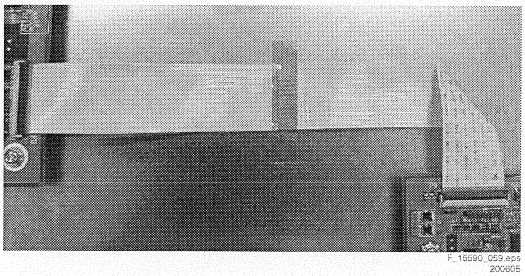

Figure 9-12 Flat Flexible Cable

9.9 TCP (Tape Carrier Package)

9.9.1 Purpose

To supply a waveform which is made by the X board to the PDP, and to select an output pin that is controlled by TCP when "on" or "off" (192 output pins per IC).

- TCP is package type, which is made by Direct Bonding between IC and electrode film.
- It is more effective than Wire Bonding type by increasing number of Data Driver IC output pins (96-pin -> 192-pins, pitch < 80 μm).

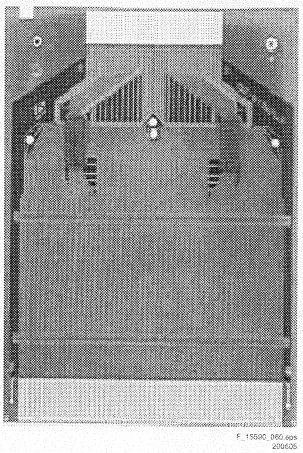

Figure 9-13 Tape Carrier Package

9.10 IPM (Intelligent Power Module)

9.10.1 Purpose

Attached at Z board and Y board, to make Sustain waveform.
Sustainer: supply a square wave to the PDP to make video.

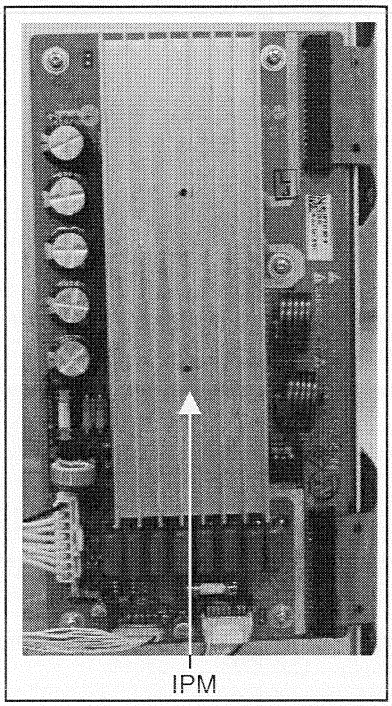

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Figure 9-14 Intelligent Power Module

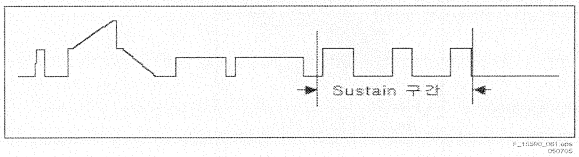


Figure 9-15 Sustain pulse (061)

9.10.2 Main Components

Heatsink, capacitor, diode, IC, resistor, transistor, and FET.

9.11 Abbreviation List

AC	Alternating Current
B/D	Board
CLK	Clock signal
CTRL	Control (board)
DC	Direct Current
FET	Field Effect Transistor
FPC	Flexible Printed Circuit
I/O	Input/Output
IC	Integrated Circuit
IPM	Intelligent Power Module
LED	Light Emitting Diode
LGE	Lucky Goldstar Electronics (supplier)
MCM	Multi Chip Module
PCB	Printed Circuit Board (same as PWB)
PDP	Plasma Display Panel
PFC	Power Factor Corrector circuit
PSU	Power Supply Unit
PWB	Printed Wiring Board (same as PCB)
RGB	Red, Green, Blue colour space
STB	Stand-by signal
TCP	Tape Carrier Package

9.12 IC Data Sheets

Not applicable

10. Spare Parts List

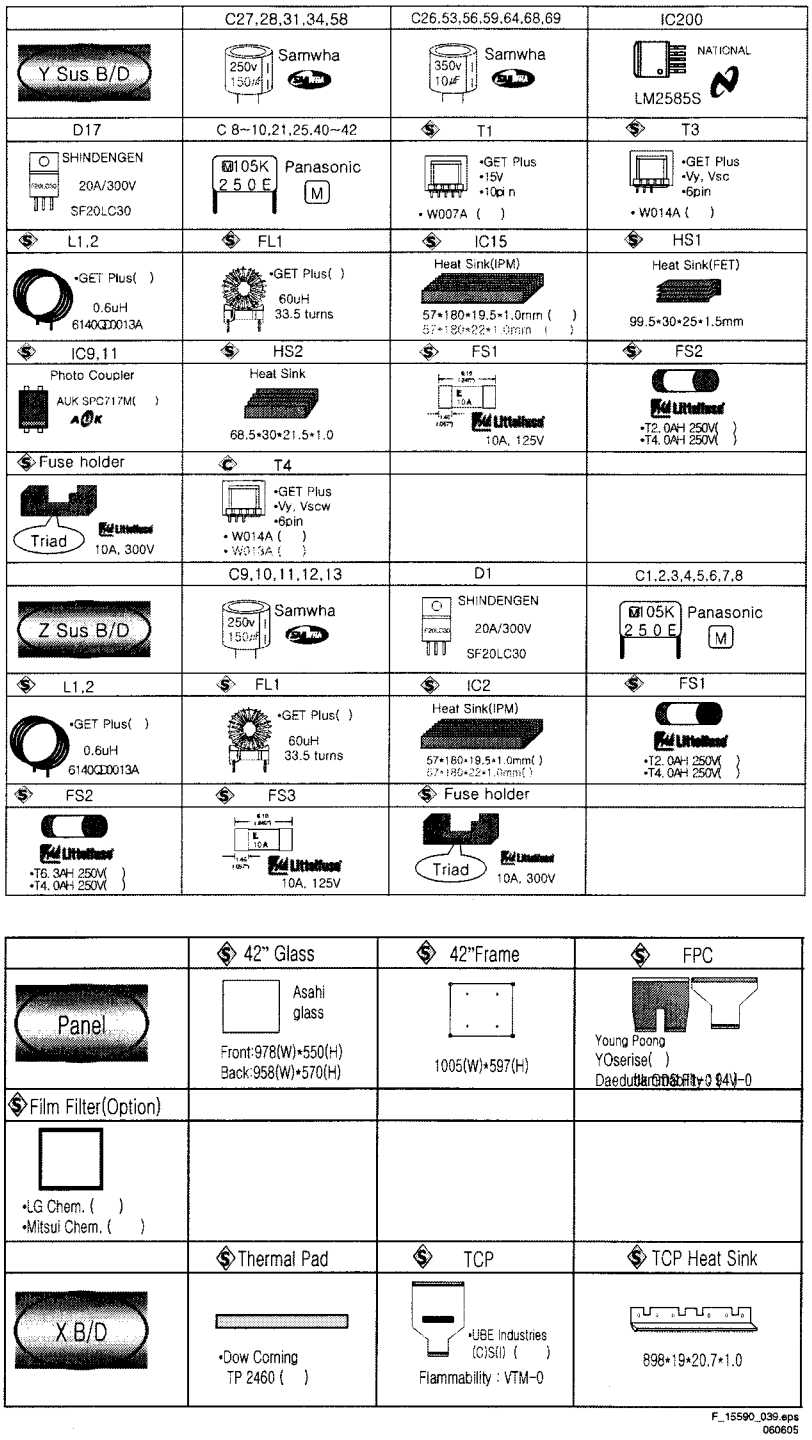


Figure 10-1 Safety component overview (for information purpose only, parts cannot be ordered!)

Plasma Module PDP42V7****

Various

S001	9965 000 27808	CONTROL board
S002	9965 000 27809	Y-DRIVE TOP board
S003	9965 000 27810	Y-DRIVE BTM board
S004	9965 000 27811	X-LEFT board
S005	9965 000 27812	X-RIGHT board
S006	9965 000 27813	Y-SUS board
S007	9965 000 27814	Z-SUS board
S008	9965 000 27815	PSU board
S009	9965 000 29871	Conn. assy 10P PSU=>Y-SUS
S010	9965 000 29872	Conn. assy 8P PSU=>Z-SUS
S011	9965 000 29873	Conn. assy 4P PSU=>Y-SUS

11. Revision List

Manual xxxx xxx xxxx.0

- First release.

Colour Television

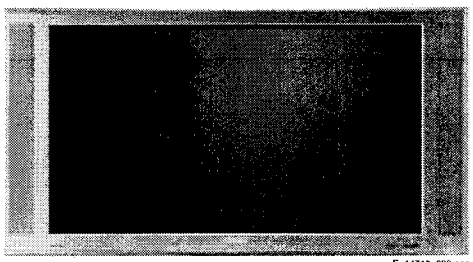
Chassis

LC4.9E

AB

Service
Service
Service

For manual LGE plasma panel see: 3122 785 15590



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ServiceManual

Contents

Published by BB 0570 TV Service

Subject to modification EN 3122 785 15671

PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	: Plasma
Screen size	: 42" (107 cm), 16:9
Resolution (HxV pixels)	: 852 x 480
Contrast ratio	:
- 42PF5520D/10	: 10,000:1
- 42PF7520D/10	: 13,000:1
Light output (cd/m^2)	: 1500
Viewing angle (HxV degrees)	: 160x160
Tuning system	: PLL
Reception standards	: Analogue &
	: digital terrestrial TV
	: (DVB-T)
TV Colour systems	: PAL B/G, D/K, I
	: SECAM B/G, D/K, L/L'
Video playback	: PAL B/G; SECAM L/L'
	: NTSC M/N 3.58, 4.43
Supported computer formats	: VGA (640x480)
	: VGA (720x400)
	: VGA (720x480)
	: MAC (640x480)
	: MAC (832x624)
	: SVGA (800x600)
	: XVGA (1024x768)
	: WXGA (1280x768)
	: WXGA (1280x960)
	: WXGA (1280x1024)
Supported video formats	: 640x480i - 1fH
	: 720x576i - 1fH
	: 640x480p - 2fH
	: 720x576p - 2fH
	: 852x480p - 2fH
	: 1920x1080i - 2fH
Presets/channels	: 100 presets
Tuner bands	: VHF
	: UHF
	: S-band
	: Hyper-band

1.1.2 Sound

Sound systems	: FM-mono
	: FM-stereo B/G
	: NICAM B/G, D/K, I, L
	: AV Stereo
Maximum power (W_{RMS})	: 2 x 15

1.1.3 Miscellaneous

Power supply:	
- Mains voltage (V_{AC})	: 220 - 240
- Mains frequency (Hz)	: 50 / 60
Ambient conditions:	
- Temperature range (°C)	: +5 to +40
- Maximum humidity	: 90% R.H.
Power consumption	
- Normal operation (W)	: ≈ 450
- Stand-by (W)	: < 2
Dimensions (WxHxD cm)	: 124x68x10.4
Weight (kg)	: 42

1.2 Connection Overview

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side I/O connections

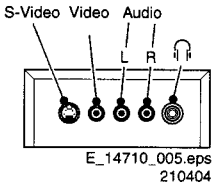

Figure 1-1 Side I/O connections

S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd
2	- Ground C	Gnd
3	- Video Y	1 V_{PP} / 75 ohm
4	- Video C	0.3 V_{PP} / 75 ohm

Cinch: Video CVBS - In, Audio - In

Ye	- Video CVBS	1 V_{PP} / 75 ohm
Wh	- Audio L	0.5 V_{RMS} / 10 kohm
Rd	- Audio R	0.5 V_{RMS} / 10 kohm

Mini Jack: Audio Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW

1.2.2 Rear Connections

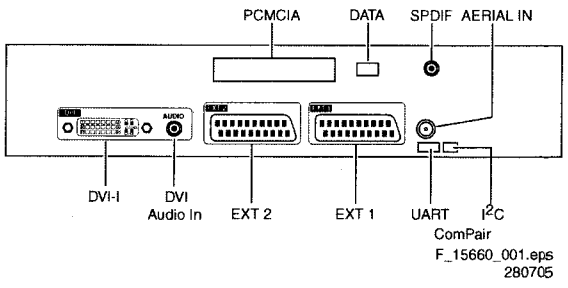

Figure 1-2 Rear I/O

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm

Mini Jack: Audio - In

1	- Ground	Gnd
2	- Audio L	0.5 V_{RMS} / 10 kohm
3	- Audio R	0.5 V_{RMS} / 10 kohm

Service connector (ComPair)

1	- SDA-S	I^2C Data (0 - 5 V)

1.3 Chassis Overview

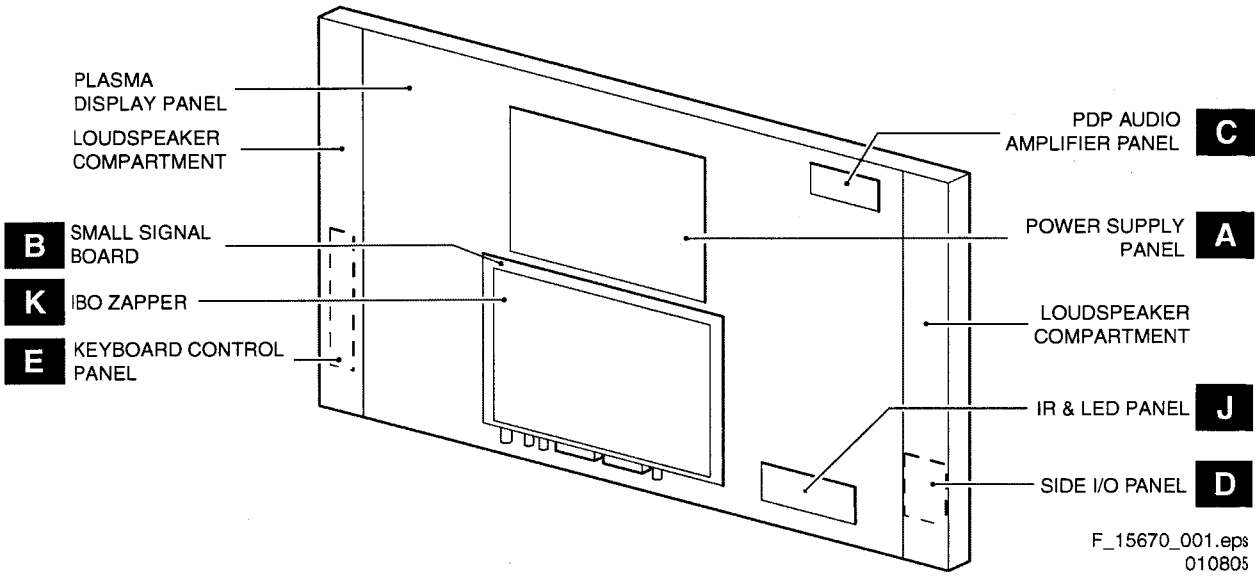

Figure 1-6 PWB locations

2	- SCL-S	I^2C Clock (0 - 5 V)	
3	- Ground	Gnd	

Service connector (UART)

1	- UART_TX	Transmit	
2	- Ground	Gnd	
3	- UART_RX	Receive	

DVI-I: Digital/Analogue Video - In

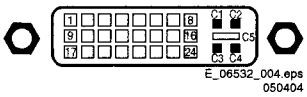

Figure 1-3 DVI-I connector

1	- D2-		
2	- D2+		
3	- Shield	Gnd	
4	- D4-		
5	- D4+		
6	- DDC_SCL	DDC clock	
7	- DDC_SDA	DDC data	
8	- V-sync	0 - 5 V	
9	- D1-		
10	- D1+		
11	- Shield	Gnd	
12	- D3-		
13	- D3+		
14	- +5V		
15	- Ground	Gnd	
16	- HPD	Hot Plug Detect	
17	- D0-		
18	- D0+		
19	- Shield	Gnd	
20	- D5-		
21	- D5+		
22	- Shield	Gnd	
23	- CLK+		
24	- CLK-		
C1	- Video Red	0.7 V_{PP} / 75 ohm	
C2	- Video Green	0.7 V_{PP} / 75 ohm	
C3	- Video Blue	0.7 V_{PP} / 75 ohm	
C4	- H-sync	0 - 5 V	
C5	- Ground	Gnd	

EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

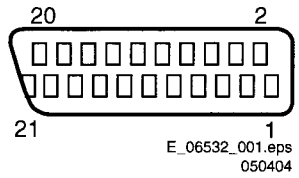

Figure 1-4 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm	
2	- Audio R	0.5 V_{RMS} / 10 kohm	
3	- Audio L	0.5 V_{RMS} / 1 kohm	
4	- Ground Audio	Gnd	
5	- Ground Blue	Gnd	
6	- Audio L	0.5 V_{RMS} / 10 kohm	
7	- Video Blue	0.7 V_{PP} / 75 ohm	
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Ground Green	Gnd	
10	- n.c.		
11	- Video Green	0.7 V_{PP} / 75 ohm	
12	- n.c.		
13	- Ground Red	Gnd	
14	- Ground	Gnd	
15	- Video Red	0.7 V_{PP} / 75 ohm	
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm	
17	- Ground Video	Gnd	
18	- Ground FBL	Gnd	
19	- Video Terr. CVBS	1 V_{PP} / 75 ohm	
20	- Video CVBS/Y	1 V_{PP} / 75 ohm	
21	- Shield	Gnd	

EXT2: Video Y/C - in, CVBS - In/Out, Audio - In/Out

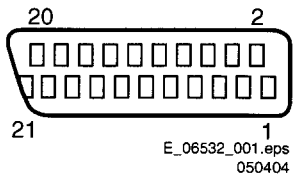

Figure 1-5 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm	
2	- Audio R	0.5 V_{RMS} / 10 kohm	
3	- Audio L	0.5 V_{RMS} / 1 kohm	
4	- Ground Audio	Gnd	
5	- Ground Blue	Gnd	
6	- Audio L	0.5 V_{RMS} / 10 kohm	
7	- n.c.		
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3	
9	- Ground Green	Gnd	
10	- n.c.		
11	- n.c.		
12	- n.c.		
13	- Ground Red	Gnd	
14	- Ground	Gnd	
15	- YC/C - in	0.7 V_{PP} / 75 ohm	
16	- n.c.		
17	- Ground Video	Gnd	
18	- Ground	Gnd	
19	- Video Mon. CVBS	1 V_{PP} / 75 ohm	
20	- YC/Y - in	0.7 V_{PP} / 75 ohm	
21	- Shield	Gnd	

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains (AC Power) via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains (AC Power) lead for external damage.
- Check the strain relief of the Mains (AC Power) cord for proper function.
- Check the electrical DC resistance between the Mains (AC Power) plug and the secondary side (only for sets that have a Mains (AC Power) isolated power supply):
  1. Unplug the Mains (AC Power) cord and connect a wire between the two pins of the Mains (AC Power) plug.
  2. Set the Mains (AC Power) switch to the "on" position (keep the Mains (AC Power) cord unplugged!).
  3. Measure the resistance value between the pins of the Mains (AC Power) plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch "off" the set, and remove the wire between the two pins of the Mains (AC Power) plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  - Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  - Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (⏚), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⊓) and without (⊼) aerial signal. Measure the voltages in the power supply section both in normal operation (①) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.
- The semiconductors indicated in the circuit diagram and in the parts lists, are interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads (μ= x10^{-6}), nano-farads (n= x10^{-9}), or pico-farads (p= x10^{-12}).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 Rework on BGA (Ball Grid Array) ICs

General

Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF)BGA is removed from a PWB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

Device Removal

As is the case with any component that, is being removed, it is essential when removing an (LF)BGA, that the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature.
A uniform temperature reduces the risk of warping the PWB. To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

Area Preparation

When the component has been removed, the vacant IC area must be cleaned before replacing the (LF)BGA.
Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent.

After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA.
Note: Do not apply solder paste, as this has been shown to result in problems during re-soldering.

Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF)BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

More Information
For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select "Magazine", then go to "Workshop Information". Here you will find Information on how to deal with BGA-ICs.

2.3.4 Lead-free Solder

Philips CE is producing lead-free sets (PBF) from 1.1.2005 onwards.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 5 and 6 refer to the production year, digits 7 and 8 refer to production week (in example below it is 1991 week 18).

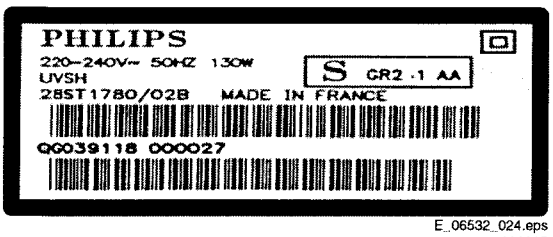

Figure 2-1 Serial number example

Regardless of the special lead-free logo (which is not always indicated), one must treat all sets from this date onwards according to the rules as described below.

Figure 2-2 Lead-free logo

Due to lead-free technology some rules have to be respected by the workshop during a repair:
- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
  - To reach a solder-tip temperature of at least 400°C.
  - To stabilise the adjusted temperature at the solder-tip.
  - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilised at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed. To avoid wear-out of tips, switch "off" unused equipment or reduce heat.
- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.
- Use only original spare-parts listed in the Service-Manuals. Not listed standard material (commodities) has to be purchased at external companies.
- Special information for lead-free BGA ICs: these ICs will be delivered in so-called "dry-packaging" to protect the IC against moisture. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets "wet" inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure inside the body. If the packaging was opened before usage, the IC has to be heated up for some hours (around 90°C) for drying (think of ESD-protection!). **Do not re-use BGAs at all!**
- For sets produced before 1.1.2005, containing leaded soldering tin and components, all needed spare parts will be available till the end of the service period. For the repair of such sets nothing changes.

In case of doubt whether the board is lead-free or not (or with mixed technologies), you can use the following method:
- Always use the highest temperature to solder, when using SAC305 (see also instructions below).
- De-solder thoroughly (clean solder joints to avoid the mixing of two alloys).

Caution: For BGA-ICs, you **must** use the correct temperature profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions).
You will find this and more technical information within the "Magazine", chapter "Workshop information".
For additional questions please contact your local repair help desk.

2.3.5 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages.** While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

4. Mechanical Instructions

Index of this chapter:

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

4.1 Cable Dressing

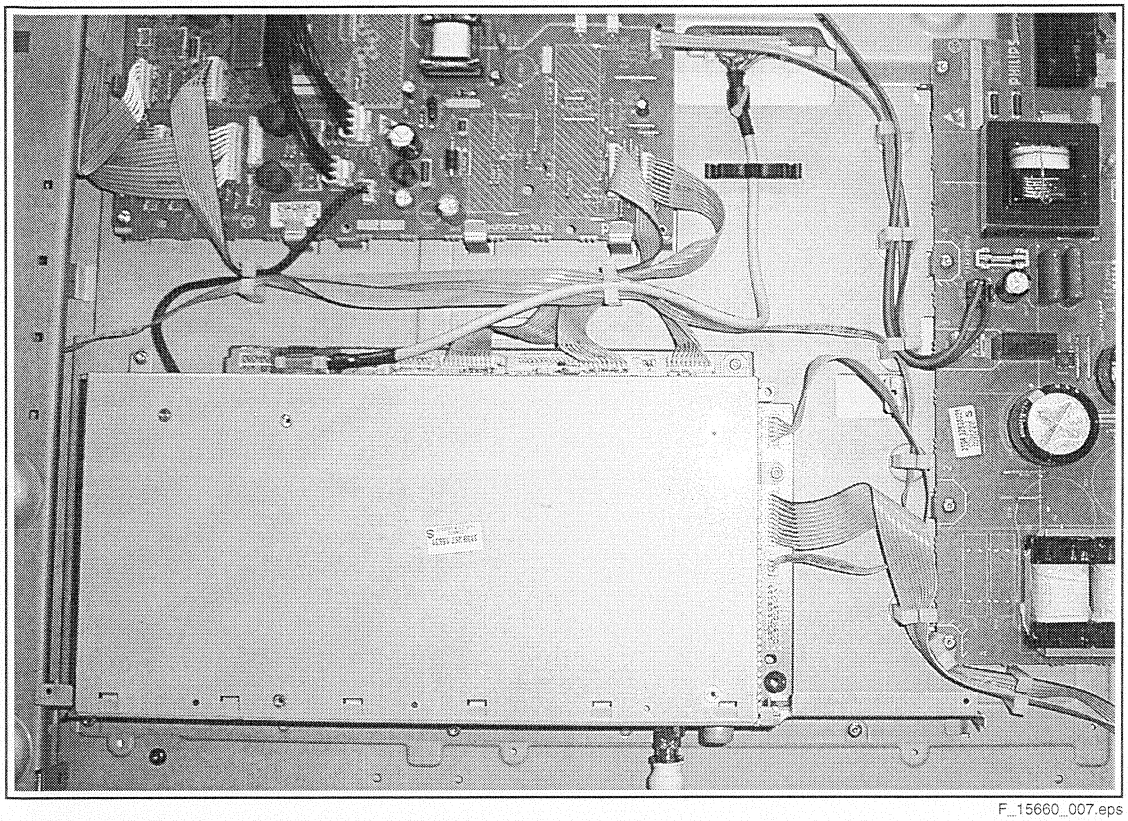

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Figure 4-1 Cable dressing

4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging (see figure "Rear cover").
- Foam bars (created for service).
- Aluminium service stands (created for Service).

4.2.1 Foam Bars

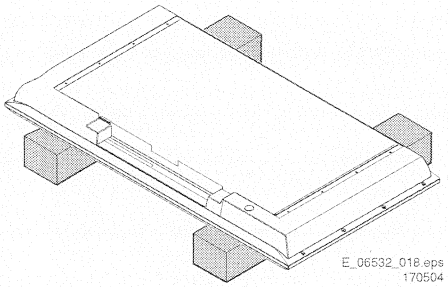

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Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments.
By placing a mirror under the TV, you can monitor the screen.

4.2.2 Aluminium Stands

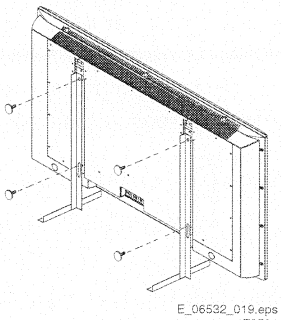

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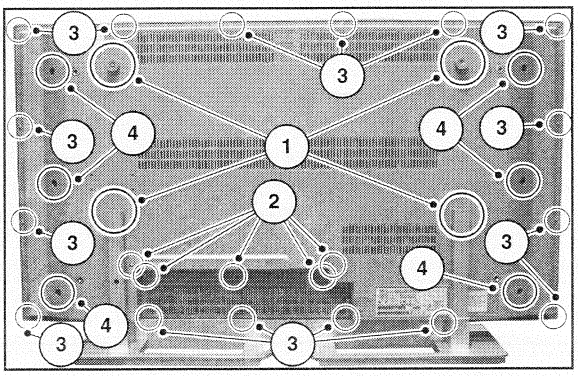
Figure 4-3 Aluminium stands (drawing of MkI)

The aluminium stands (order code 3122 785 90480) can be mounted with the back cover removed or still left on. So, the stand can be used to store products or to do measurements. It is also very suitable to perform duration tests without taking much space, without having the risk of overheating, or the risk of products falling. The stands can be mounted and removed quick and easy with use of the delivered screws that can be tightened and loosened manually without the use of tools. See figure above.

Note: Only use the delivered screws to mount the monitor to the stands.

4.3 Assy/Panel Removal

4.3.1 Rear Cover



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070605

Figure 4-4 Rear cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Remove the screws that secure the rear cover (see Figure "Rear cover screws"); these are:
   a) 4 x big torx screws (1) for securing the stand/wall mount;
   b) 5 x small torx screws (2) near the rear I/O panel;
   c) 22 x small torx screws (3) that secure the loudspeaker compartments [6 of these screws are in sunken holes (4)] and along the edges of the rear cover.
2. Lift the rear cover from the cabinet cautiously. Make sure that wires and other internal components are not damaged during cover removal.

4.3.2 Cover Shield for IBO-zapper & SSB

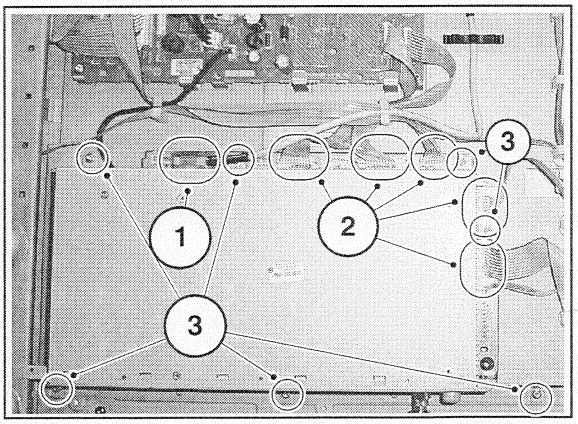

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Figure 4-5 Cover shield

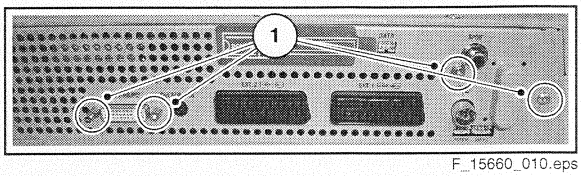

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Figure 4-6 DVI-I & SPDIF connector screws

1. Very **cautiously** disconnect the LVDS cable (1) from the SSB panel (see Figure "Cover shield"). Notice that this cable is very fragile.
2. Unplug the black cable coming from the IBO zapper/SSB board from the Audio/STBY board (see Figure "Cover shield").
3. Remove all other cables (2) from the IBO zapper/SSB board (see Figure "Cover shield").
4. Remove the 5 fixation screws that connect the top shielding with the bottom shielding, and also the 2 fixation screws that connect it with the rear connector plate, see Figure "Cover shield".
5. Remove the fixation screws from the DVI-I connector and from the SPDIF connector, see Figure "DVI-I & SPDIF connector screws (1)".
6. Remove the upper part of the shield (with the IBO zapper attached to it) from the lower part of the shield (on which the SSB board is located), by unhooking it from its brackets. Be careful not to damage the LVDS connector on the SSB board, see Figure "Cover shield".
7. Finally, remove the IBO zapper (attached to the top shielding with 4 screws), and the SSB board (attached to the lower shielding with 2 screws), see Figure "IBO zapper & SSB board".

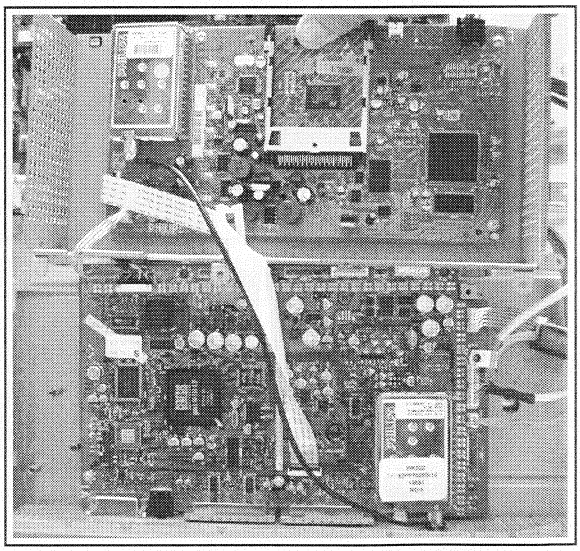

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Figure 4-7 IBO-zapper & SSB

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing". Be careful with the fragile LVDS cable.
- For a complete description of the Plasma panel, see the LGE plasma panel Service Manual (12nc is listed on the frontpage).

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Test Points

This chassis is equipped with test points in the service printing. In the schematics test points are identified with a rectangle box around Fxxx or Ixxx.
Perform measurements under the following conditions:

- Television set in Service Default Alignment Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

5.2 Service Modes

Service Default mode (SDM) & Service Alignment Mode (SAM) offers several features for the service technician, while the Customer Service Mode (CSM) & Digital Customer Service Mode (DCSM) are used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version readout for all chassis.
Minimum requirements for ComPair: a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

5.2.1 Service Default Mode (SDM)

Purpose

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

Specifications

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
  - Skipping of non-favourite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Levelling (AVL).

How to Enter

To enter SDM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short "Service" jumpers on the TV board during cold start and apply mains (see Figure "Service jumpers"). Then press the mains button (remove the short after start-up). **Caution**: Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.

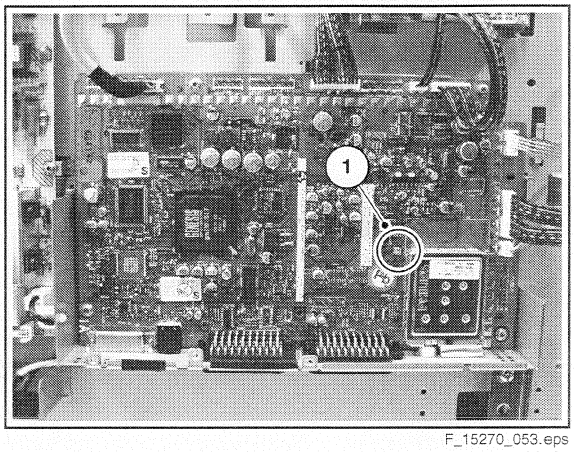

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Figure 5-1 Service jumpers

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.

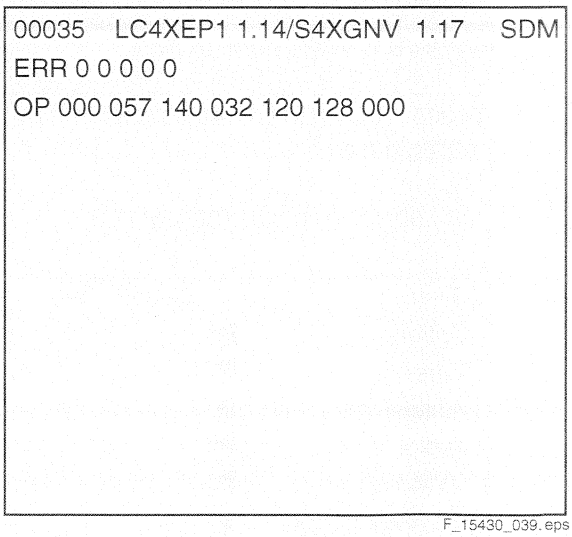

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Figure 5-2 SDM menu

How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse.

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

5.2.2 Service Alignment Mode (SAM)

Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications

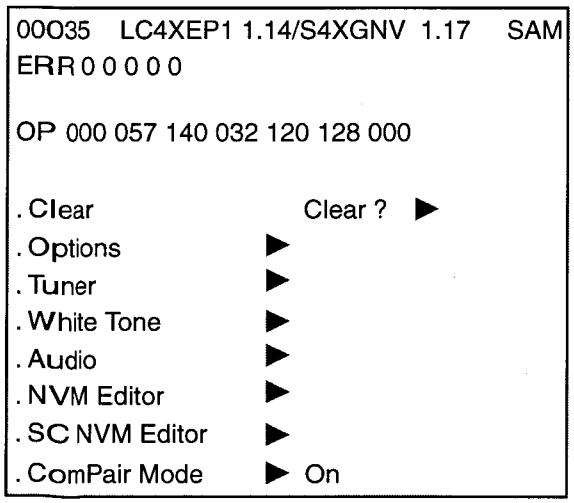
- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- AKB switching.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/ STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.



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080605

Figure 5-3 SAM menu

Menu Explanation

1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD-X.Y.** This is the software identification of the main microprocessor:
   - **A**= the project name (LC04.x).
   - **B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
   - **C**= the software diversity:
     - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
     - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
     - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
     - **ALL regions:** M= mono, D= DVD, Q= Mk2.
   - **D**= the language cluster number.
   - **X**= the main software version number (updated with a major change that is incompatible with previous versions).
   - **Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEEE-F.GG.** This is the software identification of the Scaler:
   - **EEEEEE**= the scaler sw cluster
   - **F**= the main sw version no.
   - **GG**= the sub-version no.
4. **SAM.** Indication of the Service Alignment Mode.
5. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes.** Used to set the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio.** No audio alignment is necessary for this television set.
12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.
    Caution: When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be highlighted. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU or STATUS/EXIT button.
- When you press the MENU key in while in a submenu you will return to the previous menu.

How to Store SAM Settings
To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

How to Exit
Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

5.2.3 Customer Service Mode (CSM)

Purpose
The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to Enter
To enter CSM, press the following key sequence on the remote control transmitter: **"123654"** (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:

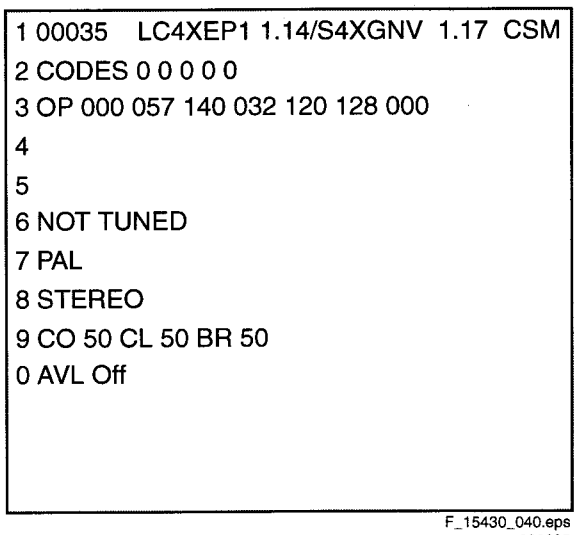

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Figure 5-4 CSM menu

Menu Explanation
1. Indication of the decimal value of the operation hours counter, Software identification of the main microprocessor (see "Service Default or Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. Reserved item for P3C call centres (AKBS stands for Advanced Knowledge Base System).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED"
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

How to Exit
To exit CSM, use one of the following methods:
- Press the MENU, STATUS/EXIT, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

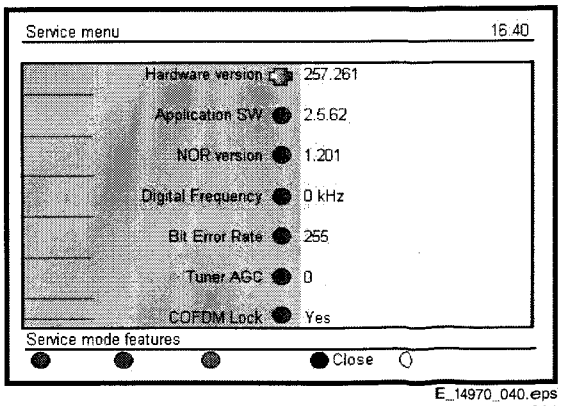
5.2.4 Digital Customer Service Mode (DCSM)

Purpose
The Digital Customer Service Mode shows error codes and information on the IBO Zapper module operation settings. The call centre can instruct the customer to activate DCSM by telephone and read off the information displayed. This helps the call centre to diagnose problems and failures in the IBO Zapper module before making a service call.

The DCSM is a read-only mode; therefore, modifications are not possible in this mode.

How to activate
To activate the DCSM, put the television in its digital mode (via the A/D button on the remote control).
1. Press the "Digital" Menu button on the remote control to activate the digital user menu ("Setup").
2. Activate the "Information" sub menu (via the "down" and "right" cursor buttons).
3. In the "Information" sub menu, press the following buttons on the remote control to activate the DCSM: **"GREEN RED YELLOW 9 7 5 9"**. Then, the "Service menu" will appear (see figures below).

Menu explanation



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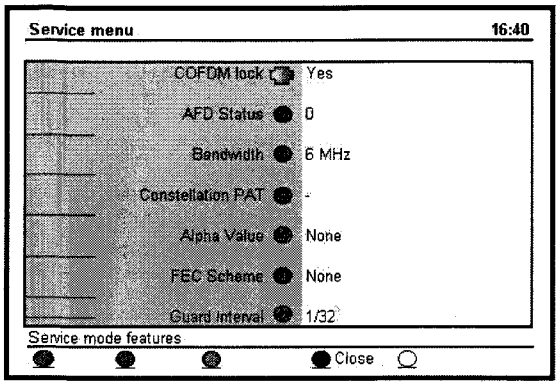
090904

Figure 5-5 DCSM menu - 1



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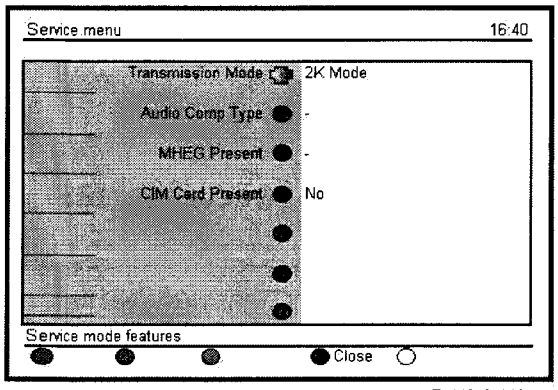
100904

Figure 5-6 DCSM menu - 2



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090904

Figure 5-7 DCSM menu - 3

1. **Hardware version:** This indicates the version of the IBO Zapper module hardware.
2. **Application SW:** The application software version.
3. **NOR Version:** The NOR Flash image software version
4. **Digital Frequency:** The digital frequency that the set is tuned to.
5. **Bit Error Rate:** The error rate measured before the error correction algorithm circuitry. (this value gives an impression of the received signal)
6. **Tuner AGC:** Tuner AGC value.
7. **COFDM Lock:** Indication if COFDM decoder is locked.
8. **AFD Status:** Status of the Active Picture Format Descriptor.
9. **Terrestrial Delivery System Parameters:**
   - **Bandwidth:** Bandwidth of the received signal.
   - **Constellation Pattern:** Displays the signal constellation.
   - **Alpha Value:** Displays the Alpha Value.
   - **FEC Scheme:** Displays the Forward Error Correcting Scheme
   - **Guard Interval:** Displays the value for the Guard Interval.
   - **Transmission Mode:** Displays the Transmission Mode.
10. **Audio Comp Type:** Type of detected audio stream.
11. **MHEG Present:** Indicates if MHEG is present or not.
12. **CIM Card Present:** Indicates if CIM card is present or not.

How to exit

Press the **BLUE** button on the Remote Control to exit DCSM.

5.3 Problems and Solving Tips Related to CSM

5.3.1 Picture Problems

Note: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

Picture too Dark or too Bright

If:

- The picture improves when you press the AUTO PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the BRIGHTNESS value.
7. Use the MENU UP/DOWN keys to select PICTURE.
8. Press the MENU LEFT/RIGHT keys to increase or decrease the PICTURE value.
9. Press the MENU button on the remote control transmitter twice to exit the user menu.
10. The new PERSONAL preference values are automatically stored.

White Line around Picture Elements and Text

If:

The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select SHARPNESS.
6. Press the MENU LEFT key to decrease the SHARPNESS value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

Snowy Picture

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.
- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/ repair the tuner if necessary.

Black and White Picture

If:

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select COLOR.
6. Press the MENU RIGHT key to increase the COLOR value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

Menu Text not Sharp Enough

If:

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

Then:

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select PICTURE.
6. Press the MENU LEFT key to decrease the PICTURE value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

5.4 Service Tools

5.4.1 ComPair

Introduction

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I^2C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I^2C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I^2C/UART level. ComPair can access the I^2C/UART bus of the television. ComPair can send and receive I^2C/UART commands to the microcontroller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I^2C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the microcontroller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions *(e.g. Does the screen give a picture? Click on the correct answer: YES / NO)* and showing you examples *(e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope).* You can answer by clicking on a link *(e.g. text or a waveform picture)* that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

How To Connect

This is described in the chassis faultfinding database in ComPair.

Caution: It is compulsory to connect the TV to the PC as shown in the picture below (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

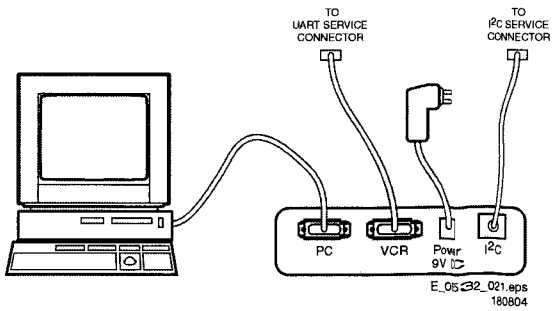


Figure 5-8 ComPair interface connection

How To Order

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.
- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60040 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.

- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk.

5.4.2 LVDS Tool

Introduction
This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) **or** the display of a Flat TV is defective.
Furthermore it is possible to program EPLDs with this tool (Byteblaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (>= 1280x768). Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

How to Connect
Connections are explained in the user manual, which is delivered with the tool.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order
- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- Service Manual LVDS tool: 3122 785 00810.
- LVDS cable 20p (for Telra 14-inch): 3122 785 90810.
- LVDS cable 30p (for LC4.3): 3122 785 90820.
- LVDS cable 41p-to-31p for CA1 (dual -> single LVDS): 3122 785 90830.

5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:
- On screen via the SAM (if you have a picture).
  Examples:
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:
- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is highlighted. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.
If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-1 Error code overview

Error	Device	Error Description	Check Item	Diagram
0	Not applicable	No Error		
1	Not applicable	Mis-match of TV Hercules SW and Scaler SW	-	-
2	Not applicable	-	-	-
3	Not applicable	-	-	-
4	Genesis Scaler Flash-ROM	I^2C error while communicating with the Genesis Scaler and/or Flash-ROM is faulty/empty	7801 7B01	B7 + B8 B10
5	Scaler supply 7752	+5V protection	7752	B6
6	Not applicable	General I^2C error	1102, 7L04, 7M00	B1 + B18 + B19
7	ADC	I^2C error	7L04	B18
8	Scaler EEPROM	I^2C error while communicating with the Scaler EEPROM	7C01	B11
9	Hercules EEPROM	I^2C error while communicating with the Hercules EEPROM (NVM for TV). **Remark:** when the Hercules EEPROM is defective, the Hercules should operate with its default values.	7207	B2
10	Tuner	I^2C error while communicating with the PLL tuner	1102, F102, F104, F107	B1
11	Columbus	I^2C error while communicating with the 2D/3D combfilter Columbus	7M00	B19
12	Not applicable	-	-	-

Error	Device	Error Description	Check Item	Diagram
13	HDMI Panellink Receiver/ Decoder	I^2C error while communicating with the iBoard HDMI Panellink Receiver/ Decoder (only in NAFTA and AP sets)	7D03	B12 (only in NAFTA and AP sets)
14	Scaler SDRAM	Read-write error with the Scaler SDRAM	7B01	B10
15	Not applicable	-	-	-
16	EPLD	I^2C error while communicating with EPLD	7N02	B20 + B21
17	Digital Module (only on Digital sets)	I^2C error while communicating with the Digital Module (only on Digital sets)	Digital Module (only on Digital sets)	
18	Not applicable	-	-	-

5.6 The Blinking LED Procedure

Using this procedure, you can make the contents of the error buffer visible via the front LED. This is especially useful when there is no picture.

When the SDM is entered, the front LED will blink the contents of the error-buffer:

- The LED blinks with as many pulses as the error code number, followed by a time period of 1.5 seconds, in which the LED is off.
- Then this sequence is repeated.

Any RC5 command terminates this sequence.

Example of error buffer: **12 9 6 0 0**
After entering SDM, the following occurs:

- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again with 12 short blinks.

5.7 Fault Finding and Repair Tips

Notes:

- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

5.7.1 NVM Editor

In some cases, it can be handy if one directly can change the NVM contents. This can be done with the "NVM Editor" in SAM mode. With this option, single bytes can be changed.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TVset!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the orginal settings, if the new settings turnout to be incorrect.

Table 5-2 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

Table 5-3 NVM Default values (option bit settings through NVM Editor in SAM Mode)

Byte Nr.	Bit	Feature/Mode	Description	42PF7520D/10	42PF5520D/10
Byte 0 174(dec)	0	QSS (LSB)	Mode of quasi split sound amplifier	1	1
	1	FMI	Connection of output of QSS amplifier	1	1
	2	HCO	EHT tracking mode	0	0
	3	HP2	Synchronization of OSD/Text display	1	1
	4	FSL	Forced slicing level for vertical sync	1	1
	5	TFR	DC transfer ratio of luminance signal	1	1
	6	OSVE	Black current measuring in overscan	0	0
	7	MVK (MSB)	(For Future Usage, as defined by software)	0	0
		Total Dec Values		59	59
		Total Hex Values		3B	3B
Byte 1 175(dec)	0	PSE	PSE	0	0
	1	OPC	OPC	0	0
	2	PRIS	PRIS	0	0
	3	CONTINUOUS FACTORY	Continuous factory mode	0	0
	4	WHITE PATTERN ON	Last color pattern status in factory mode	0	0
	5	SDM MODE	Service default mode on/off	0	0
	6	SAM MODE	Service Align mode on/off	0	0
	7	SVMA	Scavm On / Off	0	0
		Total Dec Values		0	0
		Total Hex Values		00	00
Byte 2 176(dec)	0	MUTE STATUS	Mute status	0	0
	1	TUNER AUTO MODE	Auto mode	1	1
	2	CABLE MODE	Cable/Antenna mode	0	0
	3	LAST POWER MODE	Last power status of the set	1	1
	4	CHILD LOCK MODE	Child lock enabled	0	0
	5	SURF MODE	Surf mode on/off	0	0
	6	FACTORY MODE	Factory mode on	0	0
	7	PSNS	For PAL color enhancement in ES4	1	1
		Total Dec Values		138	138
		Total Hex Values		8A	8A
Byte 3 177(dec)	0	RADIO/TV MODE	Radio mode or TV mode	0	0
	1	WAKE-UP MODE	WAKE-UP MODE	0	0
	2	HOTEL MODE	TV in Hotel mode	0	0
	3	HOTEL KBD LOCK	Keyboard locked	0	0
	4	HBL	HBL	0	0
	5	BLS	Blue stretch mode	1	1
	6	SL	SL	0	0
	7	CFA0	Comb filter On/Off	1	1
		Total Dec Values		160	160
		Total Hex Values		A0	A0
Byte 4 178(dec)	0	Signal Strength	Signal Strength Switch in MK2	0	0
	1	LPG	LPG	0	0
	2	DVD TRAY LOCK	Lock/Unlock DVD tray	0	0
	3	SCRSAVER MODE	Screen saver mode	1	1
	4	BKS	Black Stretch Mode	1	1
	5	BSD	Black Stretch Depth	1	1
	6	CRA0	Coring on SVM	1	1
	7	PIP QSS	PIP QSS	0	0
		Total Dec Values		120	120
		Total Hex Values		78	78

Byte Nr.	Bit	Feature/Mode	Description	42PF7520D/10	42PF5520D/10
Byte 5 179(dec)	0	FFI	Fast Filter	0	0
	1	NNR	No red reduction during blue stretch	1	1
	2	MUS	NTSC matrix	1	1
	3	GAM	Gamma control	1	1
	4	CBS	Control sequence of beam current limiting	0	0
	5	LLB	Low level of beam current limiter	0	0
	6	DSA	Dynamic skin tone angle area	1	1
	7	DSK	Dynamic skin tone angle on/ off	0	0
		Total Dec Values		78	78
		Total Hex Values		4E	4E
Byte 6 180(dec)	0	LTI status	LTI last status	1	1
	1	Inc_Life_Time	Inc_Life_Time	0	0
	2	PC_Mode	PC_Mode	0	0
	3	HD_Mode	HD_Mode	0	0
	4	Tact_Switch	Tact_Switch	0	0
	5	Set_In_Special_Stby	Set_In_Special_Stby	0	0
	6	Hotel_OSDDisplay	Hotel_OSDDisplay	0	0
	7	Hotel_MonitorOut	Hotel_MonitorOut	0	0
		Total Dec Values		1	1
		Total Hex Values		01	01
Byte 7 181(dec)	0	Hotel_IconMode	Hotel_IconMode	0	0
	1	DBE	DBE	1	1
	2	SD	SD	0	0
	3	Set_in_PC_Sleep_Mode	Set_in_PC_Sleep_Mode	0	0
	4	Reserved	Reserved	0	0
	5	Reserved	Reserved	0	0
	6	Reserved	Reserved	0	0
	7	Reserved	Reserved	0	0
		Total Dec Values		2	2
		Total Hex Values		02	02

5.7.2 Load Default NVM Values

In case a blank NVM is placed or when the NVM content is corrupted, default values can be downloaded into the NVM. (For empty NVM replacement, short the SDM with a jumper and apply the mains voltage. Remember to remove the jumper after the reload is completed). After the default values are downloaded, it will be possible to start up and to start aligning the TV set. This is no longer initiated automatically; to initiate the download the following action has to be performed:

1. Switch "off" the TV set by disconnecting the AC Power plug.
2. Short circuit the SDM jumpers (keep short-circuited).
3. Press P+ or Ch+ on the local keyboard (and keep it pressed).
4. Switch on the TV set via the AC Power plug.
5. Keep pressing the P+/Ch+ button until the set has started up and the SDM is shown.

Alternative method:

1. Go to SAM.
2. Select NVM Editor (not SC NVM Editor).
3. Select ADR (address) to 1 (dec).
4. Change the VAL (value) to 170 (dec).
5. Store the value.
6. Disconnect the mains plug and wait for a few seconds.
7. Reconnect the mains plug and wait until the set goes into its standby mode (red LED lights up).
8. Restart the set.

5.7.3 Tuner and IF

No Picture in RF Mode, but there is a Noise Raster

1. Check whether picture is present in AV. If not, go to Video processing troubleshooting section.
2. If present, check if the Option settings are correct.
3. Check if all the supply voltages are present (3.3/5/8/12/33 V).
4. Check if the I²C lines are working correctly (3.3 V).
5. Manually store a known channel and check if there is IF output at Tuner pin 11.
6. Check the tuning DC voltage at pin 2 of the Tuner. The DC voltage should vary according to the frequency/channel being chosen.
7. If the tuning voltage is OK, check the tuner output, pin 11.
8. If it has no output, the Tuner may have a defect. Change the Tuner.

Sound in Picture Problem for L' System (rolling horizontal lines)

1. Check whether AGC L' in SAM mode is set to 0.
2. If yes, align the set to correct value.

Required System is not Selected Correctly

Check whether a Service jumper (#4204 & 4205, 0805 size) is present. If yes, remove it.

5.7.4 Video Processing

No Power

1. Check +12 V and 3V3 at position 1J02.
2. If no supply, check the connector 1J02.
3. If it is correct, check the power supply board.

Power Supply is Correct, but no Green LED

1. Check if the connectors 1K00 are properly inserted.
2. If they are inserted correctly, check if the 3V3 is present.

No Picture Display (blank screen with correct sound output)

1. Check whether the user menu is visible.
2. If the user menu is OK, activate teletext mode.
3. If teletext is OK, the problem is in the ADC (B18) & Columbus 3D combfilter (B19), if present (depending on model, see also paragraph "Teletext Path" in chapter 9).
4. If the user menu is not visible, check if the LCD panel backlight is ON.
5. If the backlight is OFF, the problem is in the power supply board or LCD panel. Also check pin 12 (LAMP_ON_OFF) of 1J02. It should be HIGH during normal operation.

Note: For faultfinding purposes, it is important to know the following: in Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video path (Hercules output), whereas the analogue RGB input (analogue input of the scaler) is only used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. If there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty. In Crystal Clear models, which do not have an ADC and Columbus, the RGB path (analogue input of scaler) is used for both video and teletext.

No TV, but PC is Present

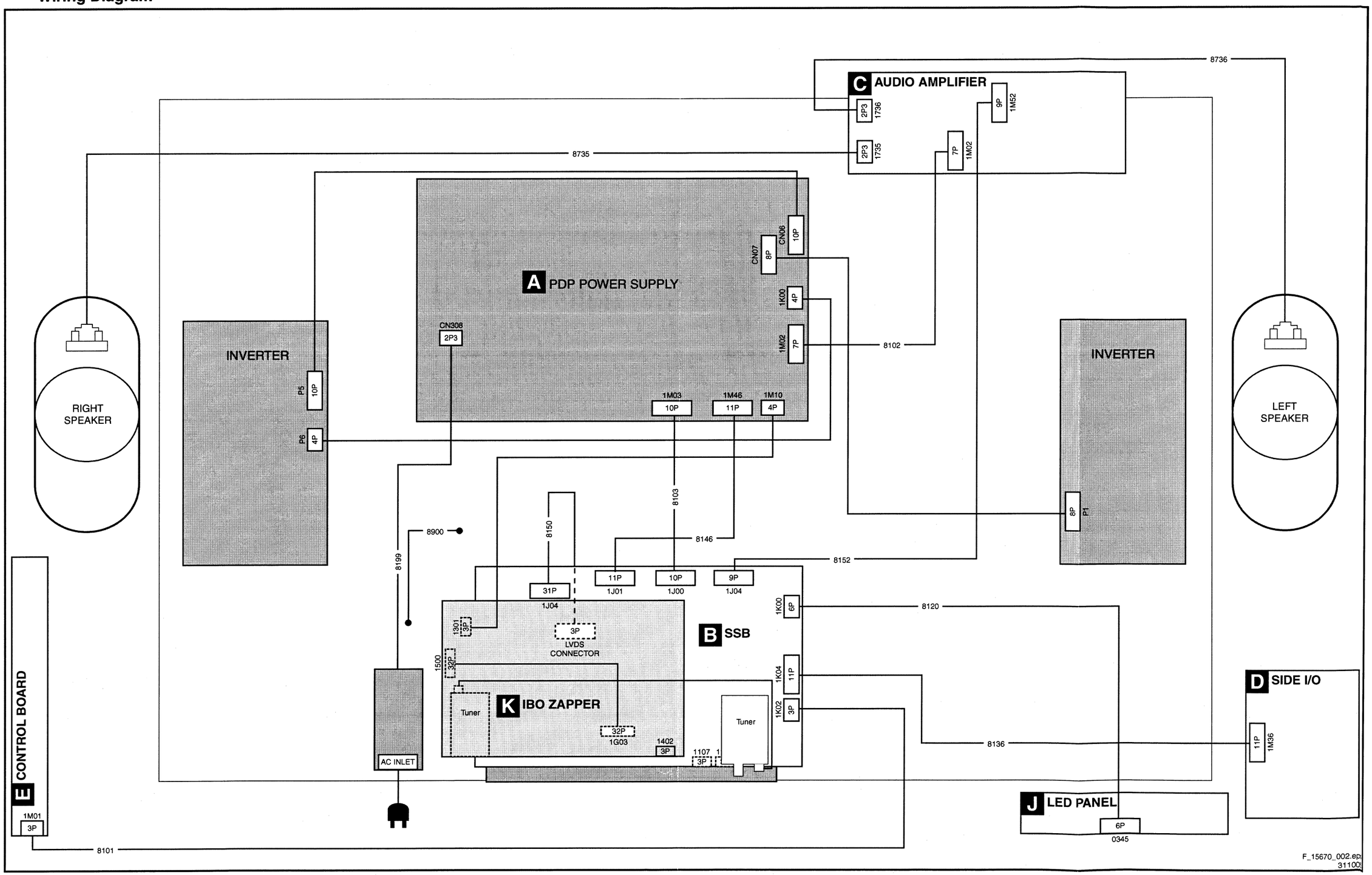
1. Check if Hsync_SDTV and Vsync_SDTV are present at pin 1 & pin13 of 7E03.
2. If they are present, check teletext output.
3. If there is no teletext output, the IC TDA150xx may be defect.

5.7.5 Power Supply

In case the power supply does not work, check (apart from the obvious fuse-check) if the oscillators in IC7001 and IC7U01 are working. If not, replace the ICs.

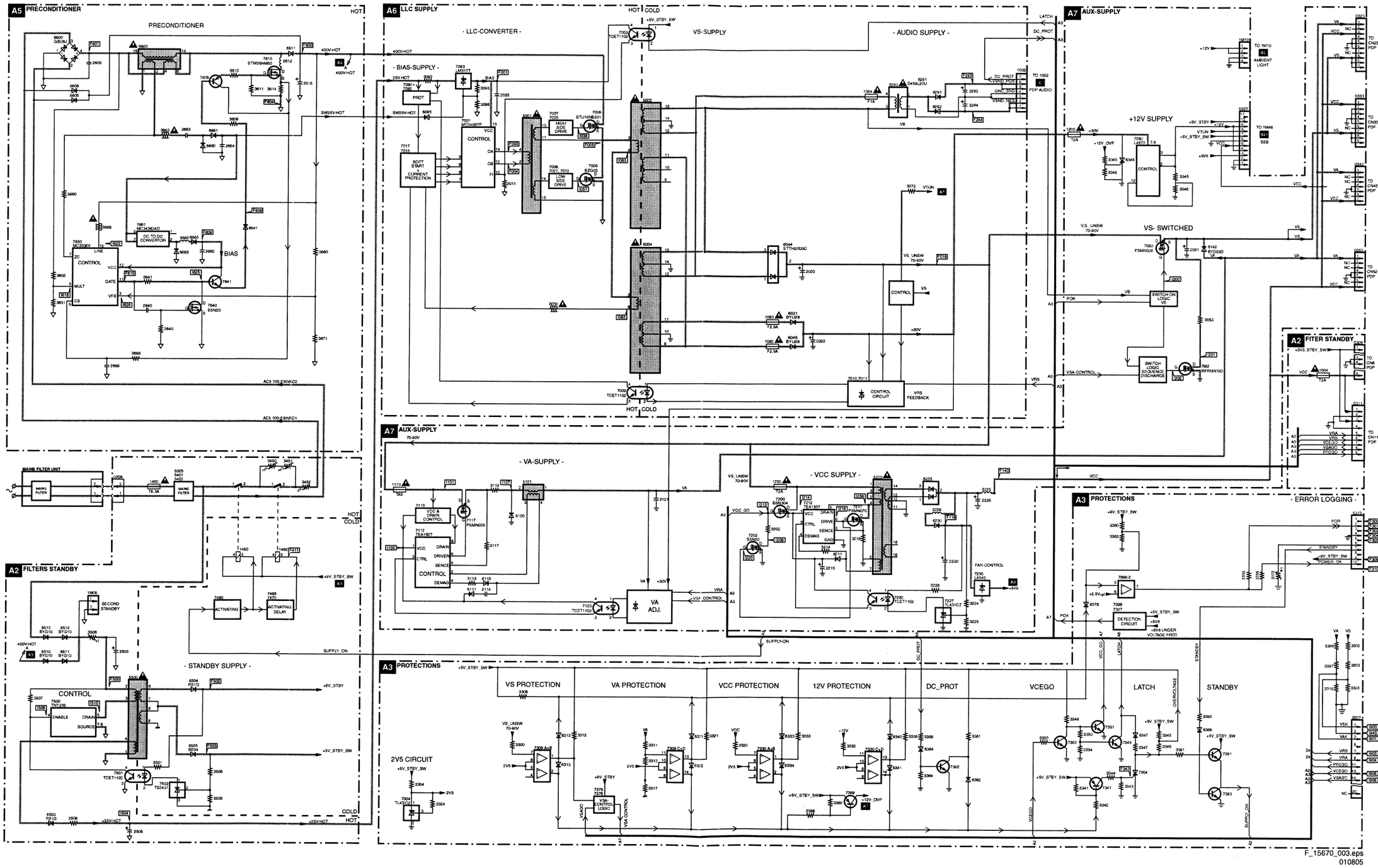
6. Block Diagrams, Testpoint Overviews, and Waveforms

Wiring Diagram

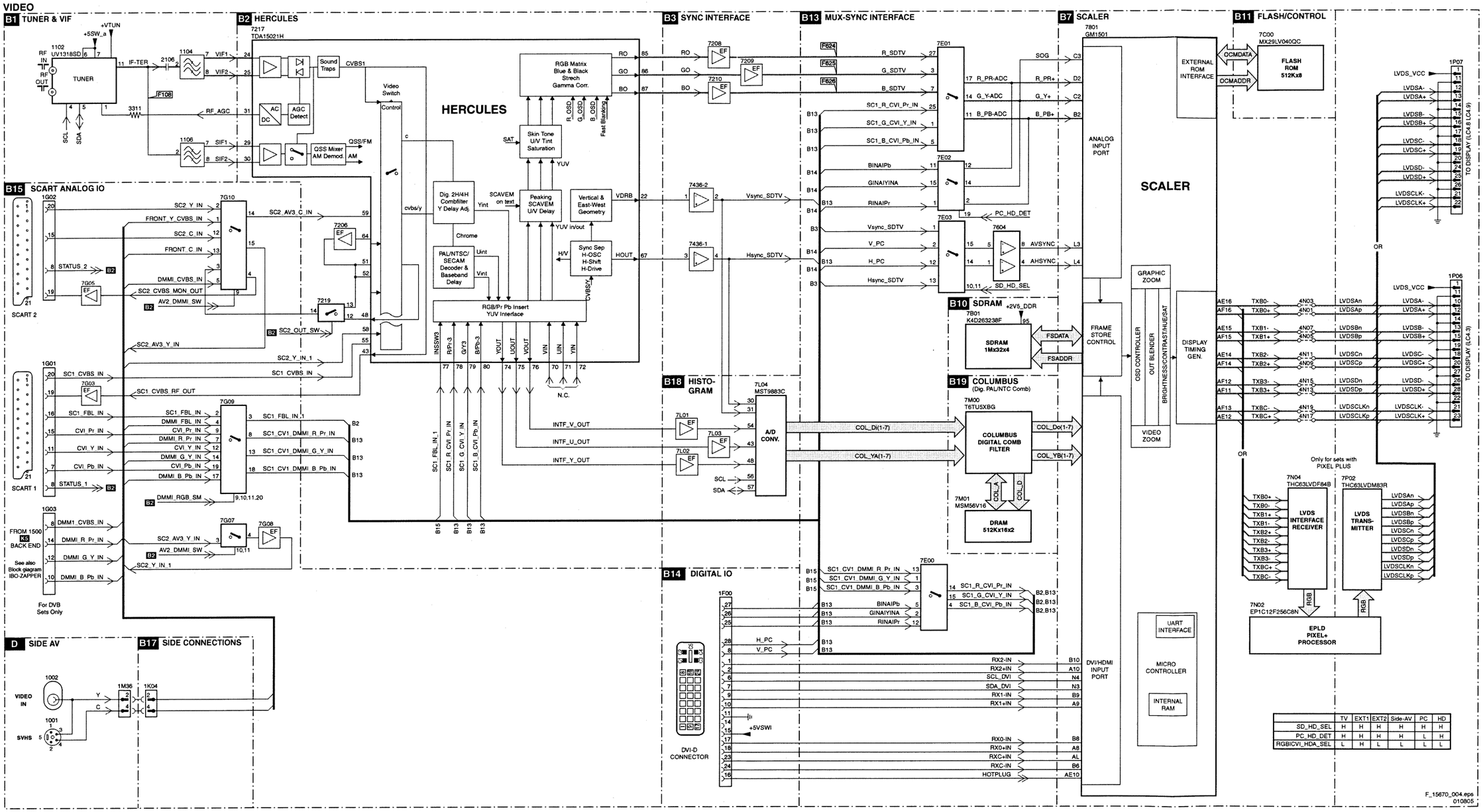


Block Diagram Supply

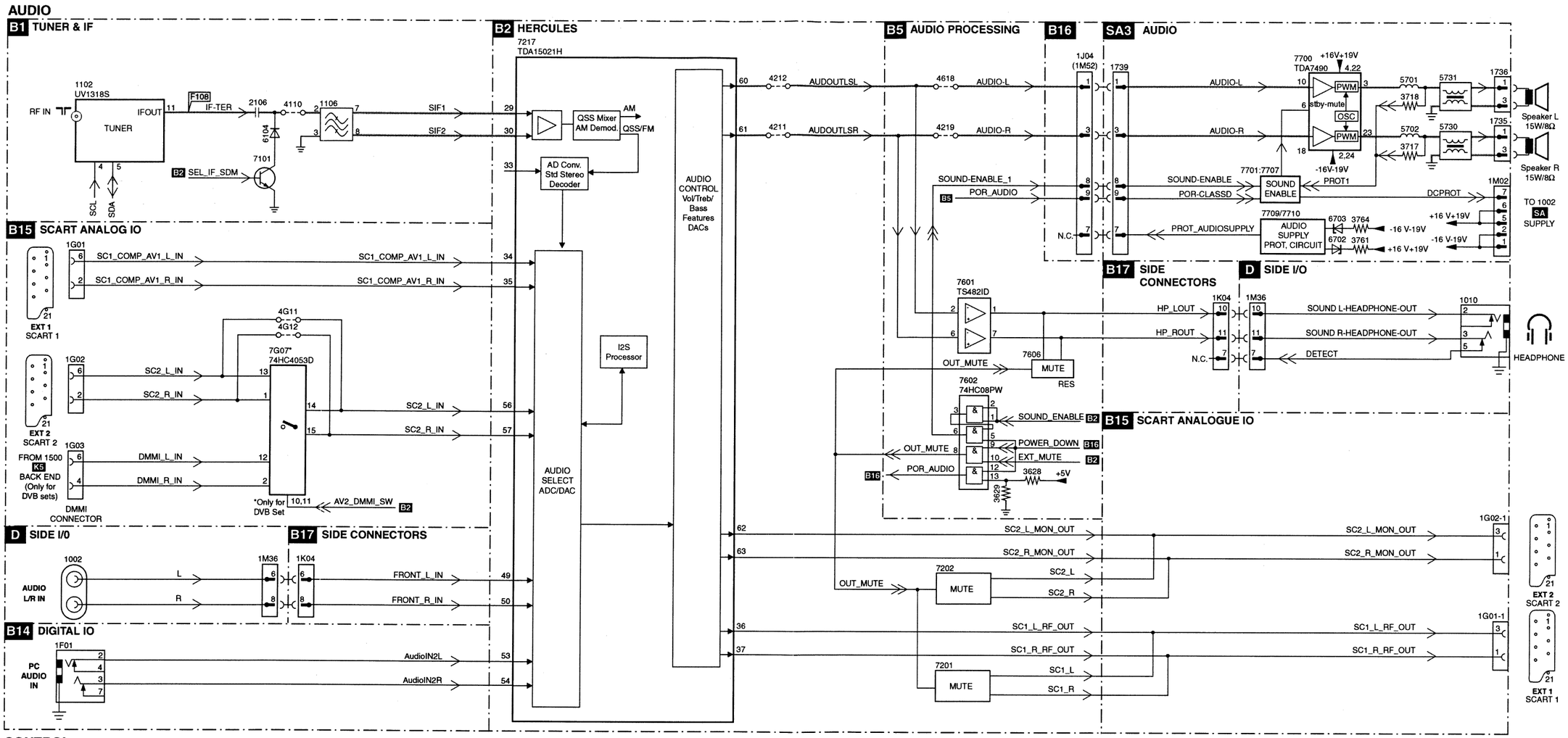
SUPPLY 42" FHP



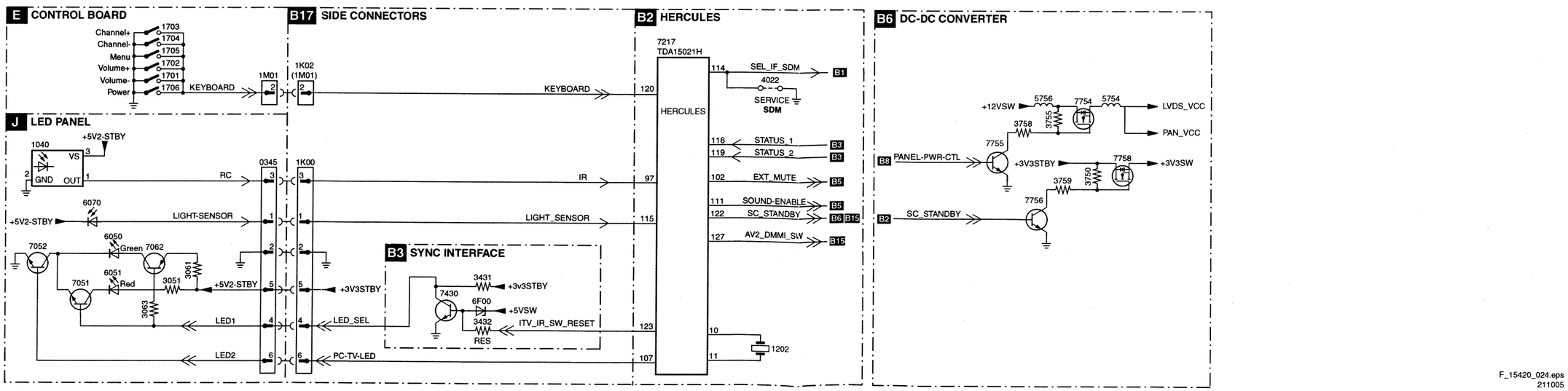
Block Diagram Video



Block Diagram Audio



CONTROL



F_15420_024.eps
211005

Testpoint Overview SSB (Top Side)

F101 C1 F102 D2 F103 C1 F104 D2 F105 D1 F106 D2 F107 C1 F108 C2 F109 C2 F110 B2 F111 B2 F112 B2 F113 B2
F114 C2 F115 D2 F116 D2 F117 D2 F200 B2 F201 A2 F202 A2 F203 A2 F204 B3 F205 B2 F206 B2 F207 B2 F208 B2 F209 B2
F210 C2 F211 A2 F212 A2 F213 A2 F214 A2 F215 A2 F216 B3 F217 A2 F218 A2 F219 A2 F220 A3 F221 A3 F222 B2 F223 B2
F224 A2 F225 A3 F226 A3 F227 C3 F228 A3 F229 B2 F230 A3 F231 A2 F232 B3 F233 B3 F234 B3 F235 B3 F236 C3
F237 B2 F238 B2 F239 B2 F240 B2 F241 B3 F242 B2 F243 B2 F244 B2 F245 A2 F246 B2 F247 A2 F248 B2 F249 B2
F250 B3 F501 A2 F502 A2 F503 A2 F504 A2 F505 A3 F505 B2 F602 A2 F603 A1 F604 A2 F605 A2 F700 A6 F701 A5
F710 A5 F736 A3 F737 A3 F738 A3 F743 B3 F754 A5 F755 A6 F800 B7 F801 B6 F802 C5 F803 B5 F804 B5 F900 C5
F901 C5 F902 C6 F903 C5 F904 C6 F905 B6 F906 B6 F907 B5 F908 C5 F909 C5 F910 C6 FB01 B7 FC00 B5 FC01 B5
FC02 B5 FC03 B5 FC04 B5 FC05 C5 FC06 B5 FC07 B4 FC08 B5 FC09 B5 FC10 B4 FD00 C7 FD01 D7 FD02 D7 FD03 D7
FD04 C7 FD05 C6 FD06 C6 FD07 C7 FD08 C7 FD09 C7 FD10 C7 FD11 D7 FD12 C7 FD13 C7 FD14 C7 FD15 C7 FD16 C7
FD17 B6 FE00 C5 FE01 C5 FE02 C4 FE03 B5 FE04 D5 FE05 C5 FE06 D5 FE07 B7 FE08 C4 FE09 C5 FF00 D6 FF01 D6
FF02 D4 FF03 D7 FF04 D7 FF05 D7 FF06 D6 FF07 D6 FF08 D3 FF09 D7 FF10 D6 FG00 D4 FG01 D4 FG02 D3 FG03 D4
FE12 C5 FE13 C5 FF11 D6 FF12 D6 FF13 D6 FG10 D2 FG11 D3 FG12 D2 FG13 D3 FG14 D6 FG15 D5 FG16 D6 FG17 D6
FG18 D5 FG19 D5 FG20 D5 FG21 D5 FG22 D5 FG23 D4 FG24 D3 FG25 D3 FG26 D5 FG27 D5 FG28 D5 FG29 D4 FG30 D5
FG31 D3 FG32 D3 FG33 D3 FG34 D4 FG35 D3 FG36 D4 FG37 D3 FG38 D3 FG39 D4 FG40 D7 FG41 D3 FG42 D4 FG43 D4
FG44 D4 FG45 D4 FG46 D4 FG47 D4 FG48 D4 FG49 D4 FG50 D4 FG51 C2 FG53 D4 FG54 D4 FG56 D4 FJ00 A7 FJ01 A5
FJ02 A5 FJ03 A5 FJ04 A5 FJ05 A5 FJ06 A5 FJ07 A5 FJ08 A5 FJ09 A2 FJ10 A2 FJ11 A4 FJ12 A2 FJ13 A2 FJ14 A2
FJ15 A7 FJ16 A7 FJ17 A7 FJ18 A7 FJ19 A7 FJ20 A7 FJ21 A5 FJ22 A5 FJ23 A5 FJ24 A5 FJ25 A5 FJ26 A5 FK00 B1
FK01 B1 FK02 B1 FK03 B1 FK04 B1 FK05 B1 FK06 B1 FK07 C1 FK08 C1 FK09 C1 FK10 B1 FK11 A1 FL00 D4 FL01 A5
FL02 A5 FL03 A5 FL04 A5 FL05 A5 FL06 A5 FL07 A5 FL08 A5 FL09 A5 FL10 A5 FL11 A4 FL12 A5 FL13 A5 FL14 A5
FL15 A5 FL16 A5 FL17 A5 FL18 A5 FL19 A5 FM00 C4 FM01 C4 FM02 C4 FM03 C4 FM04 C4 FM05 C4 FN00 A6 FN01 A6
FN02 A6 FN03 A6 FN04 A7 FN05 A7 FN06 A7 FN07 A7 FN08 A7 FN09 A7 FN10 A7 FN11 A7 FN12 A7 FN13 A6 FN14 A6
FN15 A6 FN16 A6 FN17 A6 FN18 B6 FN19 B5 FN20 A7 FN21 A7 FN22 A7 FN23 A7 FN25 B6 FN26 A7 FN27 A7 FN28 A7
FN29 A7 FN30 A7 FN31 A7 FN32 A7 FN33 A7 FN34 A7 FN35 A7 FP00 A6 FP01 A6 FP02 A6 FP03 A6 FP04 A6 FP05 A6
FP06 A6 FP07 A6 FP08 A7 FP09 A7 FP10 A7 FP11 A7 FP12 A7 FP13 A6 FP14 A7 FP15 A6 FP16 A6 FP17 A7 1100 C2
1101 D2 1102 C2 1103 C2 1104 C2 1105 C2 1106 C2 1107 C2 1108 C2 1109 C2 1110 C2 1111 C1 1112 D2 1113 D2
1200 A2 1201 A2 1202 A2 1203 B2 1204 B2 1205 B2 1206 B2 1207 B2 1208 B2 1209 B2 1210 A3 1211 A3 1212 A3
1213 A3 1214 A3 1215 A2 1216 B2 1217 B3 1218 A3 1219 B3 1220 B3 1221 A2 1222 B2 1223 A2 1224 A3 1225 A2
1226 B2 1227 B2 1228 B3 1229 B2 1230 A3 1231 B2 1232 A2 1233 B2 1234 B2 1235 B2 1236 B2 1237 B2 1238 A2
1239 A3 1240 A3 1241 A2 1242 A2 1243 A2 1244 B3 1246 A3 1247 A3 1248 A3 1249 A2 1250 A3 1251 A3 1252 B3
1253 C3 1254 B3 1255 B3 1256 B2 1257 B3 1258 B2 1259 B3 1260 B3 1261 B3 1262 B2 1263 B3 1264 B3 1265 B3
1266 B3 1267 B3 1268 B3 1269 A2 1270 B3 1271 A3 1272 B3 1273 C3 1274 A1 1275 A3 1277 A3 1278 A3 1280 A3
1281 A3 1282 A3 1283 B3 1284 B3 1285 B3 1289 D2 1290 D2 1291 D2 1292 D2 1293 D2 1294 A2 1295 A2 1296 A2
1297 A1 1298 B3 1299 B3 1300 B3 1301 B3 1302 B3 1303 B3 1304 B3 1305 B3 1306 B3 1307 B3 1308 B3 1309 B3
1310 B3 1311 B3 1312 B3 1313 B3 1314 B3 1315 B3 1316 B3 1317 B3 1318 B3 1319 B3 1320 B3 1321 B3 1322 B3
1323 B3 1324 B3 1325 B3 1326 B3 1327 B3 1328 B3 1329 B3 1330 B3 1331 B3 1332 B3 1333 B3 1334 B3 1335 B3
1336 B3 1337 B3 1338 B3 1339 B3 1340 B3 1341 B3 1342 B3 1343 B3 1344 B3 1345 B3 1346 B3 1347 B3 1348 B3
1349 B3 1350 B3 1351 B3 1352 B3 1353 B3 1354 B3 1355 B3 1356 B3 1357 B3 1358 B3 1359 B3 1360 B3 1361 B3
1362 B3 1363 B3 1364 B3 1365 B3 1366 B3 1367 B3 1368 B3 1369 B3 1370 B3 1371 B3 1372 B3 1373 B3 1374 B3
1375 B3 1376 B3 1377 B3 1378 B3 1379 B3 1380 B3 1381 B3 1382 B3 1383 B3 1384 B3 1385 B3 1386 B3 1387 B3
1388 B3 1389 B3 1390 B3 1391 B3 1392 B3 1393 B3 1394 B3 1395 B3 1396 B3 1397 B3 1398 B3 1399 B3 1400 B3
1401 B3 1402 B3 1403 B3 1404 B3 1405 B3 1406 B3 1407 B3 1408 B3 1409 B3 1410 B3 1411 B3 1412 B3 1413 B3
1414 B3 1415 B3 1416 B3 1417 B3 1418 B3 1419 B3 1420 B3 1421 B3 1422 B3 1423 B3 1424 B3 1425 B3 1426 B3
1427 B3 1428 B3 1429 B3 1430 B3 1431 B3 1432 B3 1433 B3 1434 B3 1435 B3 1436 B3 1437 B3 1438 B3 1439 B3
1440 B3 1441 B3 1442 B3 1443 B3 1449 A3 1450 A3 1451 A3 1452 A3 1453 A3 1454 A1 1500 A3 1501 A3 1502 A2
1503 A2 1504 A3 1505 A2 1506 A2 1507 A2 1508 A2 1509 A2 1510 A2 1511 A2 1512 A2 1513 A2 1514 A2 1515 A2
1516 A2 1517 A2 1518 A2 1519 A2 1520 A2 1521 A2 1522 A2 1523 A2 1524 A2 1525 A2 1526 A2 1527 A2 1528 A2
1529 A2 1530 A2 1531 A2 1532 A2 1533 A2 1534 A2 1535 A2 1536 A2 1537 A2 1538 A2 1539 A2 1540 A2 1541 A2
1542 A2 1543 A2 1544 A2 1545 A2 1546 A2 1547 A2 1548 A2 1549 A2 1550 A2 1551 A2 1552 A2 1553 A2 1554 A2
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1581 A2 1582 A2 1583 A2 1584 A2 1585 A2 1586 A2 1587 A2 1588 A2 1589 A2 1590 A2 1591 A2 1592 A2 1593 A2
1594 A2 1595 A2 1596 A2 1597 A2 1598 A2 1599 A2 1600 A2 1601 A2 1602 A2 1603 A2 1604 A1 1605 A2 1606 A2
1607 A1 1608 A1 1610 A1 1611 B1 1612 A1 1613 A1 1614 A1 1615 A1 1616 A1 1617 A2 1618 A1 1619 A1 1705 A3
1706 A4 1708 A5 1709 A5 1710 A4 1711 A4 1712 A4 1713 A4 1714 A4 1715 A4 1716 A4 1731 A4 1732 A3 1733 A3
1734 A3 1735 A3 1736 A3 1740 B3 1741 B3 1742 B3 1747 A5 1748 A5 1749 A5 1750 A6 1751 A5 1752 A5 1753 A5
1754 A5 1755 A5 1756 A6 1757 A5 1758 A5 1759 A5 1760 A6 1800 C6 1801 C5 1802 B5 1803 B5 1804 B6 1805 B5
1806 B5 1807 B5 1808 B5 1809 B5 1810 B5 1811 C7 1812 C6 1813 B7 1815 C6 1816 C6 1817 C6 1818 C4 1819 B5
1820 B6 1821 B5 1822 B5 1900 B7 1901 B6 1902 C6 1903 C6 1904 B6 1905 B6 1906 C5 IA00 C6 IA03 B4 IA05 C6
IA06 C6 IA07 C6 IA08 B5 IA09 B6 IB02 B7 IB03 B7 ID00 C7 ID01 D7 ID02 C7 ID03 C7 ID04 C7 ID05 C7 ID06 C7
ID07 C7 ID08 C7 ID09 C7 ID10 C7 ID11 C7 ID12 C7 ID13 C6 ID14 C6 ID15 C7 ID16 C7 ID17 C7 ID18 C7 ID19 C7
IE00 D4 IE01 C4 IE02 D5 IE03 A4 IE04 C5 IE05 C5 IE06 C4 IE07 C4 IE08 C4 IE09 C5 IE10 C5 IE11 C5 IE12 C5
IE13 D5 IE14 D4 IE15 D4 IE16 C4 IE17 C4 IE18 C4 IE19 D5 IE20 D5 IE21 D5 IE22 D5 IE23 C5 IE24 C5 IE25 D5
IE26 D5 IE27 C5 IE28 C4 IE29 C4 IE30 C4 IE31 C5 IE32 C5 IE33 C5 IE34 C5 IE35 C5 IE36 C5 IE37 C5 IF00 D7
IF01 D7 IF02 D7 IF03 D7 IF04 D6 IF05 D6 IF06 D7 IF07 D7 IF08 D7 IF11 D6 IF12 D6 IF13 D7 IF14 D7 IF15 D6
IF17 D7 IF20 D7 IF21 D4 IF22 D6 IF23 D6 IG00 D4 IG01 D4 IG02 D4 IG03 D4 IG04 D3 IG05 D3 IG06 D3 IG07 D3
IG08 D3 IG09 D3 IG10 D3 IG11 D3 IG12 D3 IG13 D2 IG14 D6 IG15 D5 IG16 D6 IG17 D5 IG18 D6 IG19 D5 IG20 D6
IG21 D5 IG23 D5 IG24 D5 IG25 D5 IG26 D5 IG27 D4 IG28 D3 IG29 D3 IG30 D3 IG40 D5 IG42 D5 IG43 D4 IG46 D5
IG47 D5 IG49 D4 IG50 D4 IG52 D5 IG53 D5 IG54 D5 IG55 D5 IG56 D5 IG57 D5 IG59 D4 IG60 D3 IG61 D2 IG62 D2
IG63 D3 IG64 D3 IG67 D3 IG69 D3 IG73 D4 IG75 D5 IG76 D6 IG78 D5 IG79 D5 IG80 D5 IJ01 A3 IJ02 A3 IJ03 A4
IJ04 A3 IJ05 A3 IJ06 A3 IJ07 A3 IJ08 A3 IJ09 A3 IJ10 A3 IJ11 A3 IJ12 A3 IJ13 A3 IK00 A1 IK01 A1 IK02 A1
IK03 A1 IK04 A1 IK05 B3 IK06 B3 IK07 B3 IK08 B3 IK09 B3 IK10 B3 IK11 B3 IK12 B4 IK13 B4 IK14 B4 IK15 B3
IK16 B1 IK17 B1 IK18 B1 IL01 B3 IL02 B3 IL03 B3 IL04 B3 IL05 B3 IL06 B3 IL07 B3 IL08 B3 IL09 B3 IL10 B4
IL11 B4 IL12 B4 IL13 B4 IL14 B4 IL15 B4 IL16 C3 IL17 B3 IL18 B3 IL19 B4 IM00 C4 IM01 C3 IM03 B4 IM04 B4
IM05 B4 IM06 B4 IM07 B4 IM08 B4 IM09 B4 IM10 B3 IM11 C3 IN01 A6 IN02 A6 IN03 A6 IN04 A6 IN05 A6 IN06 A6
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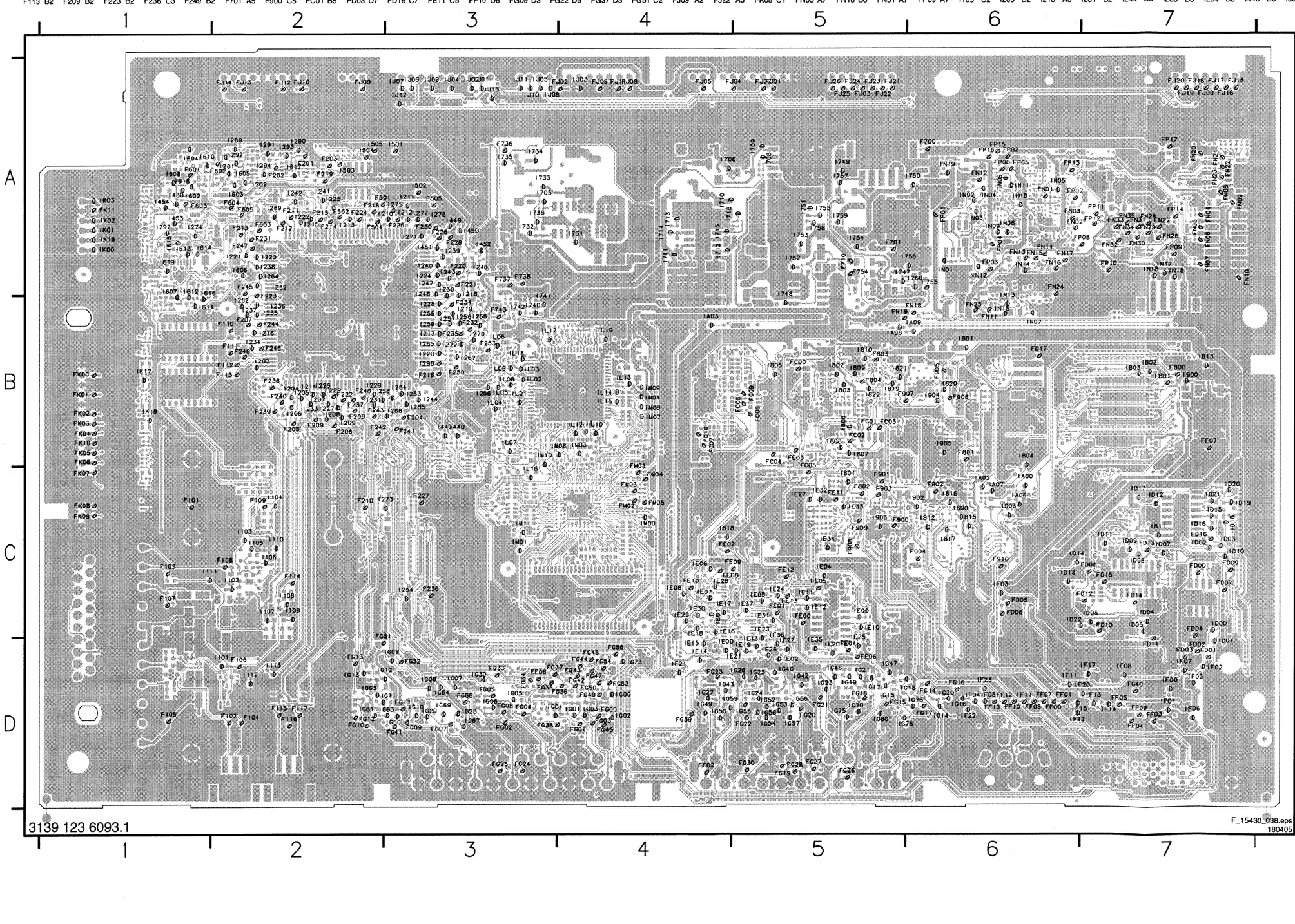
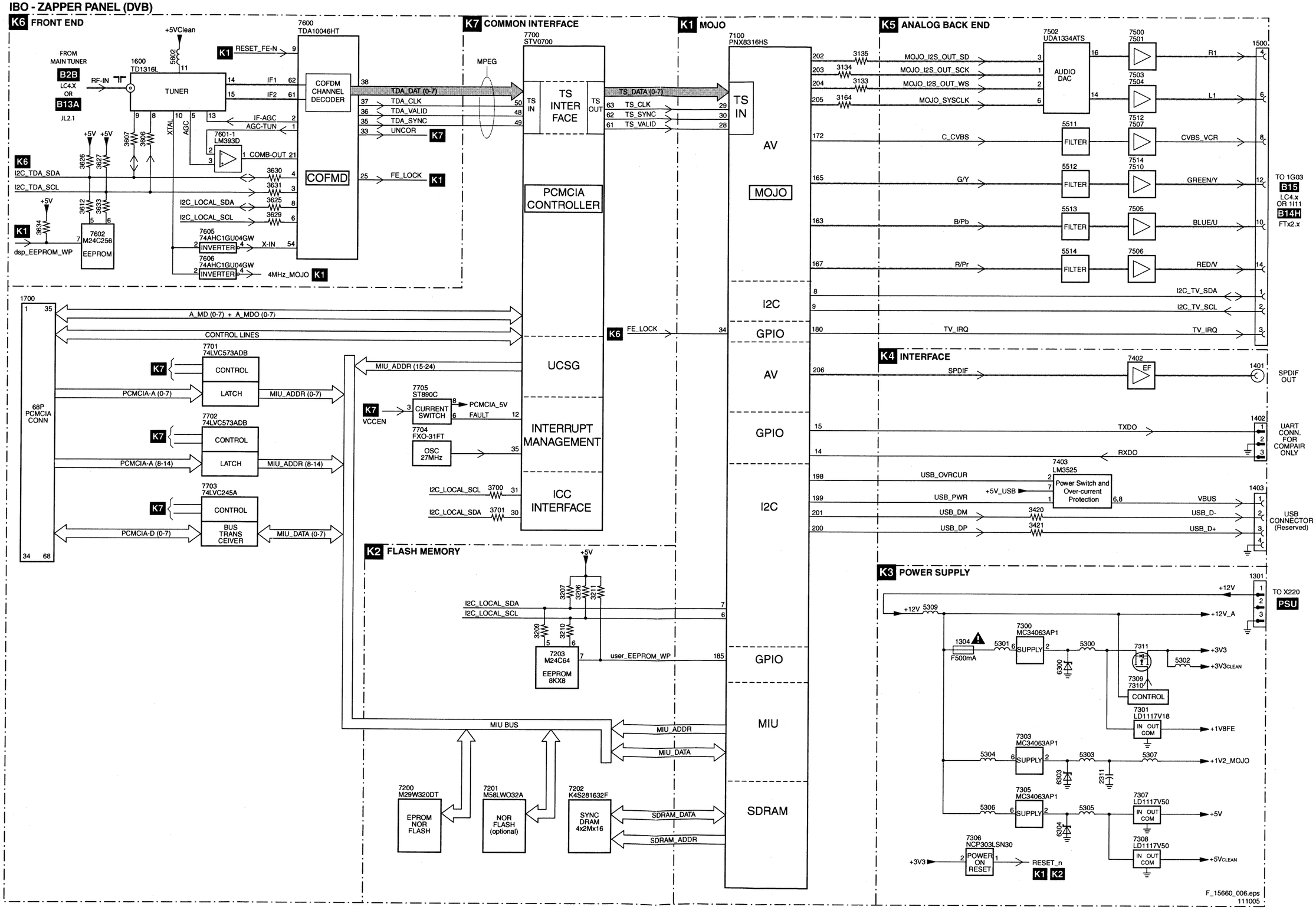


Block Diagram IBO Zapper

IBO - ZAPPER PANEL (DVB)



Testpoint Overview IBO Zapper (Bottom Side)

F105 A1
F106 A1
F107 A1
F108 A1
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F110 A1
F111 A1
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F113 A1
F114 A1
F122 B1
F125 A1
F129 A1
F131 A1
F132 B1
F133 A1
F134 A1
F135 A2
F136 A3
F137 B1
F138 A1
F200 A3
F201 C2
F300 C4
F301 C5
F302 B5
F303 C2
F304 C2
F305 B5
F306 B5
F307 B4
F308 C4
F309 C6
F310 C3
F312 A1
F313 B5
F314 B4
F315 B4
F316 B4
F317 C2
F407 A1
F408 A1
F409 A1
F410 A1
F414 A2
F415 A2
F420 A1
F421 A1
F422 A1
F423 A1
F424 A1
F500 A1
F501 A1
F502 A1
F503 A1
F505 B6
F506 B6
F507 B6
F509 B4
F512 A1
F514 C6
F516 C6
F517 B6
F518 C6
F519 C6
F521 C6
F600 B5
F603 A5
F604 A5
F605 A5
F606 A5
F607 A4
F608 A4
F609 A4
F610 A4
F611 A5
F612 A5
F613 A5
F700 A3
F701 A3
F702 A3
F703 A3
F704 A3
I100 A2
I101 A3
I103 B1
I104 B1
I105 B1
I200 B2
I201 B2
I202 C1
I203 B1
I204 B2
I205 B2
I206 C2
I207 A3
I208 A4
I209 B1
I210 B1
I211 B2
I301 A1
I302 C3
I306 A4
I310 C3
I312 C3
I313 C3
I314 C4
I316 C5
I317 C4
I318 C4
I321 C3
I322 C4
I323 C4
I324 B4
I325 B5
I326 B4
I327 C3
I328 C6
I330 C3
I331 C2
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I513 A2
I514 A2
I515 A1
I516 A2
I517 A2
I518 A1
I520 C1
I521 C1
I522 C1
I523 C1
I524 A1
I526 C6
I528 C5
I529 C6
I531 B6
I532 C1
I533 C1
I534 C1
I535 C1
I537 C6
I538 C5
I541 C5
I542 C6
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I634 B1
I700 B2
I701 B2
I702 B2
I703 B2
I704 B2
I705 B2
I706 C2
I707 B2
I708 B2
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I715 B3
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I723 B3
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I729 B3
I730 C3
I731 B3
I732 B3
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I734 B3
I735 B3
I736 C3
I737 B3
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I743 B3
I744 C3
I745 B3
I746 B3
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I757 B3
I758 B3
I759 B3
I760 C3
I761 B3
I762 B2
I763 B2
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I766 A2
I767 A2
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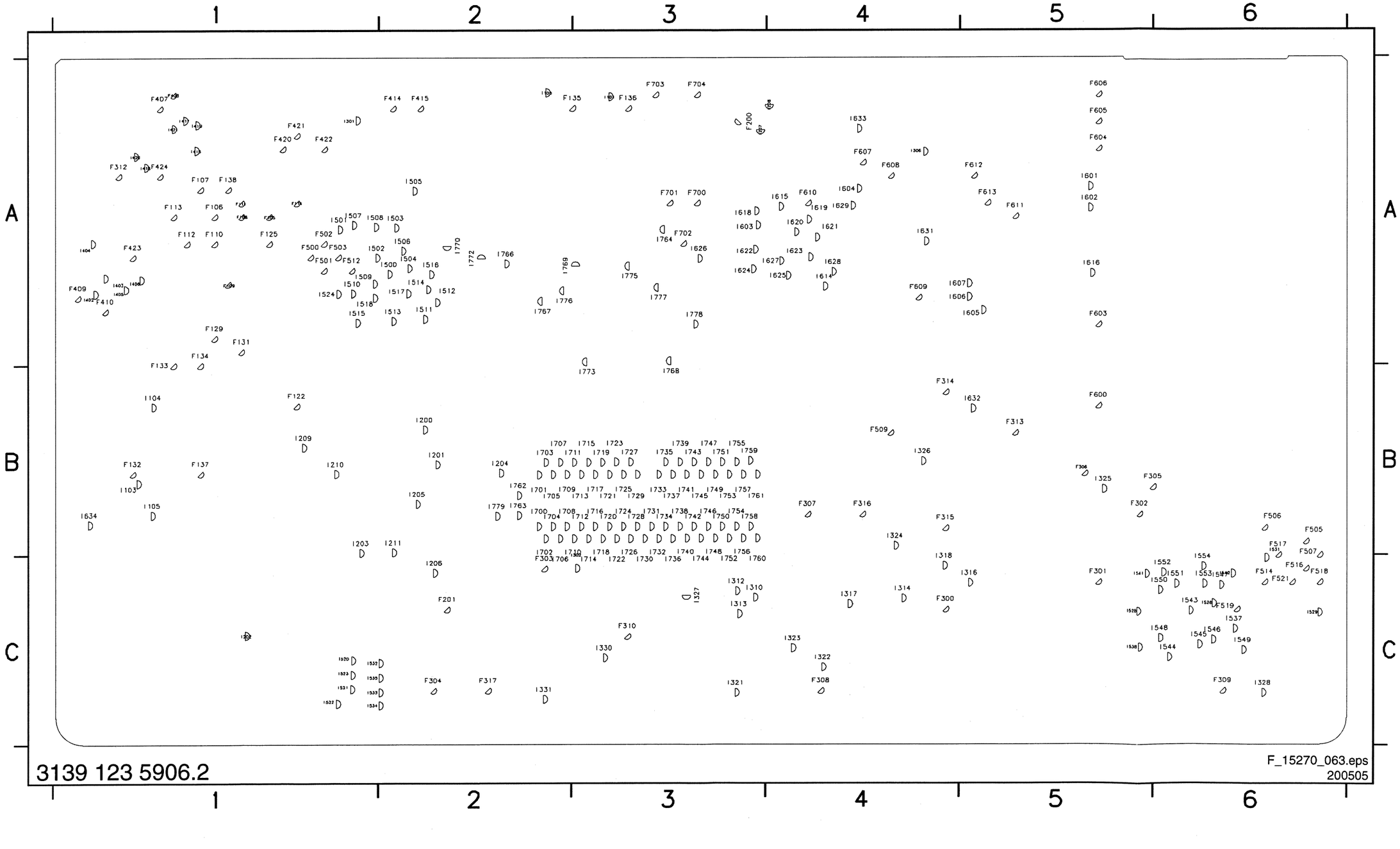
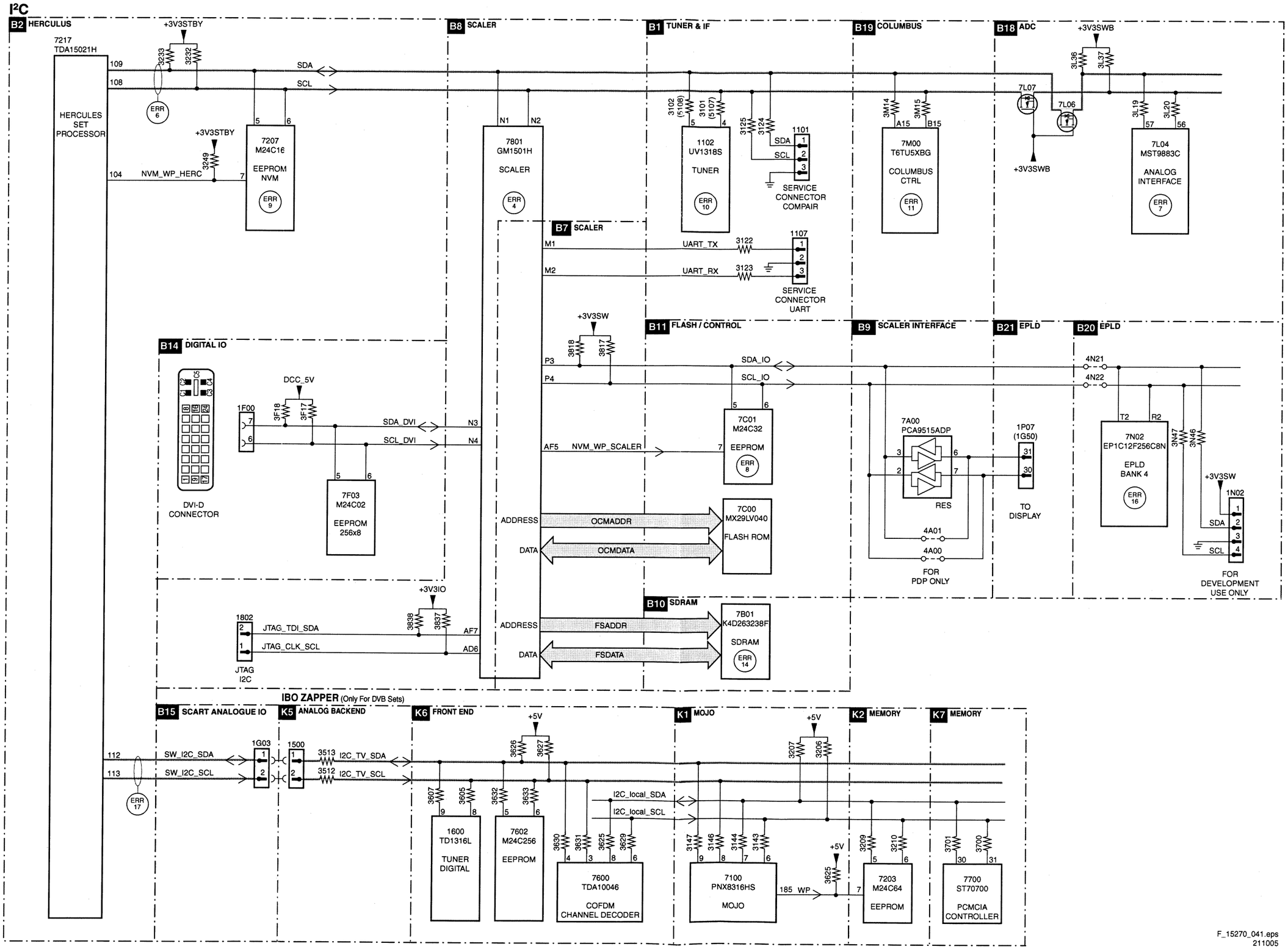
I779 B2



I2C Overview



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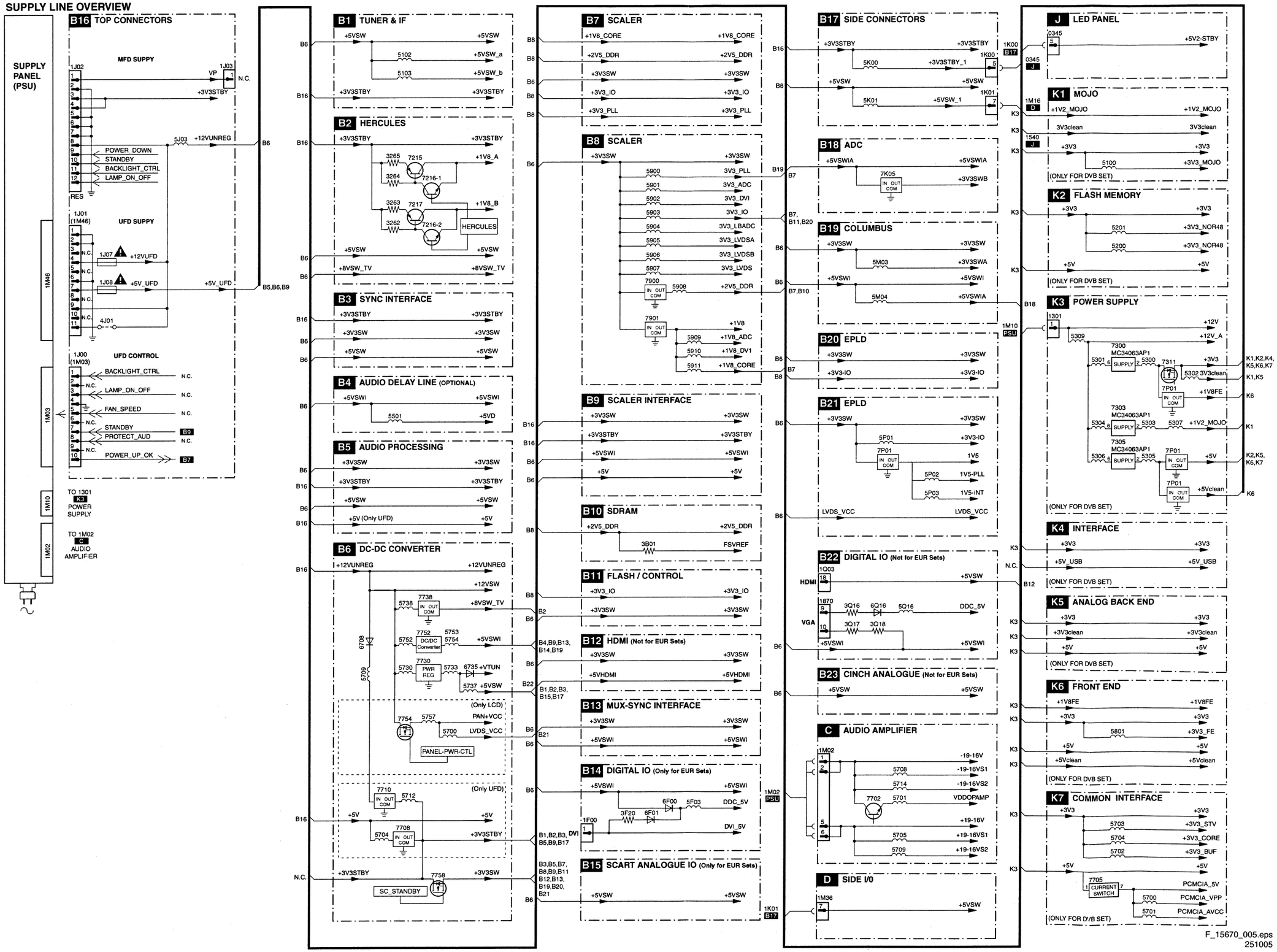
Supply Voltage Overview

SUPPLY LINE OVERVIEW



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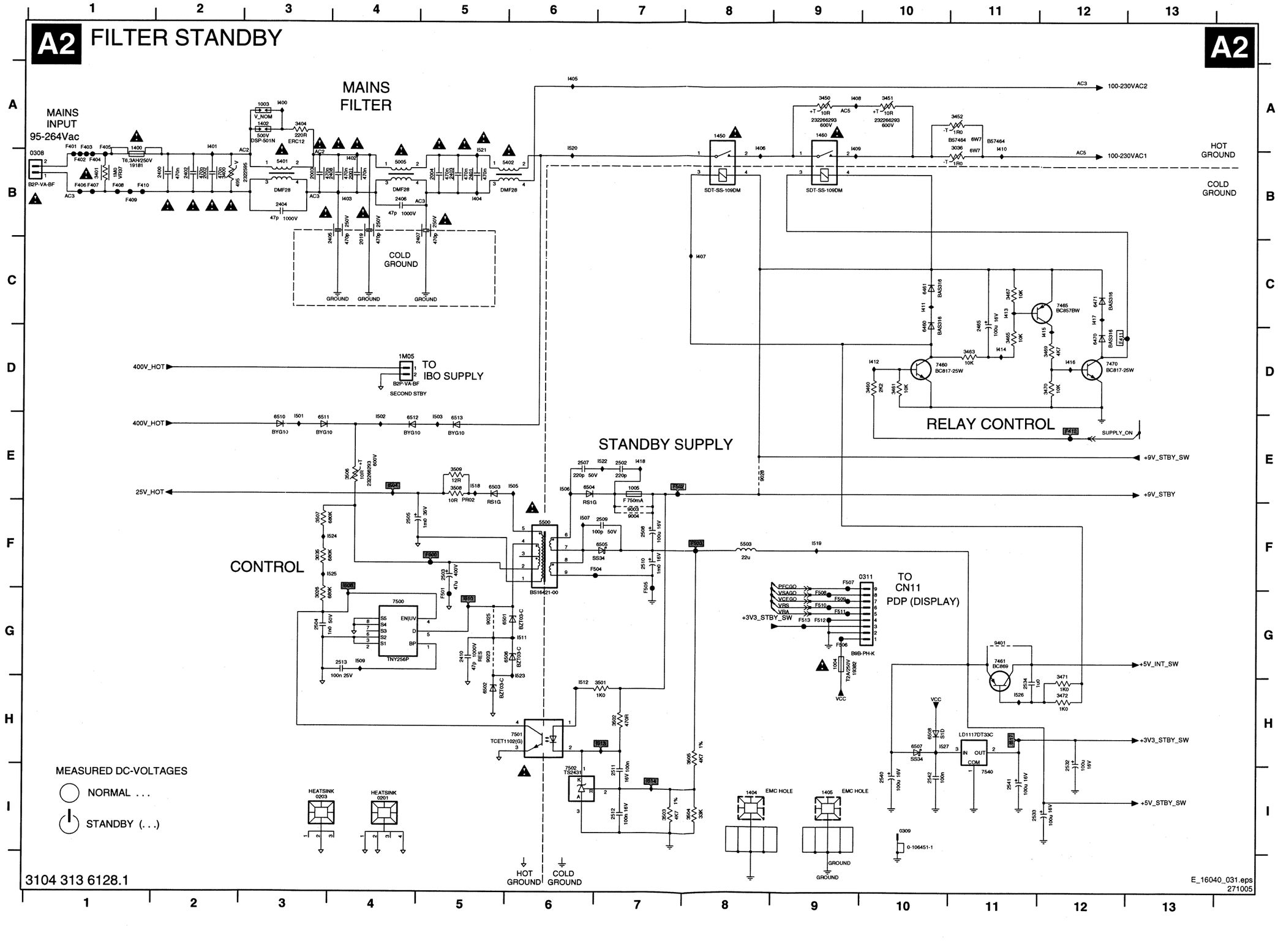
7. Circuit Diagrams and PWB Layouts

PDP FHP Supply: Filter Standby



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0309 I10	7501 H6	
0311 F10	7502 I6	
1003 A3	7540 I11	
1004 G9	9003 F7	
1005 E7	9004 F7	
1400 B1	9023 G5	
1402 A3	9025 G5	
1404 I8	9028 E8	
1405 I9	9401 G11	
1450 A8	F401 A1	
1460 A9	F402 B1	
1M05 D4	F403 B1	
2001 B4	F404 B1	
2002 B2	F405 B1	
2003 B3	F406 B1	
2004 B5	F407 B1	
2019 C4	F408 B1	
2400 B2	F409 B1	
2401 B5	F410 B1	
2402 B2	F411 D12	
2403 B5	F412 E12	
2404 B3	F500 F5	
2405 C4	F501 G5	
2406 B4	F502 E7	
2407 C5	F503 F8	
2408 B4	F504 F7	
2410 G5	F505 F7	
2465 C11	F506 G9	
2502 E7	F507 F9	
2503 F5	F508 G9	
2504 G3	F509 G9	
2505 F4	F510 G9	
2507 E6	F511 G9	
2508 F7	F512 G9	
2509 F7	F513 G9	
2510 F7	I400 A3	
2511 I7	I401 A2	
2512 I7	I402 B4	
2513 G4	I403 B4	
2532 H12	I404 B5	
2533 I11	I405 A6	
2534 H11	I406 A8	
2540 I10	I407 C8	
2541 I11	I408 A9	
2542 I10	I409 A9	
3026 G3	I410 A11	
3035 F3	I411 C10	
3036 A11	I412 D10	
3400 B2	I413 C11	
3401 B1	I414 D11	
3404 A3	I415 D12	
3450 A9	I416 D12	
3451 A10	I417 C12	
3452 A11	I418 E7	
3460 D10	I501 E3	
3461 D10	I502 E4	
3463 D11	I503 E5	
3465 D11	I504 E4	
3467 C11	I505 E6	
3469 D12	I506 E6	
3470 D12	I507 F6	
3471 G12	I508 F4	
3472 H12	I509 G4	
3501 H7	I510 G5	
3502 H7	I511 G6	
3503 I7	I512 H6	
3504 I8	I513 H7	
3505 H8	I514 I7	
3506 E4	I517 H11	
3507 F3	I518 E5	
3508 E5	I519 F9	
3509 E5	I520 A6	
5005 B4	I521 A5	
5401 B3	I522 E7	
5402 B5	I523 G6	
5500 F6	I524 F4	
5503 F8	I525 F4	
6460 C10	I526 H11	
6461 C10	I527 H10	
6470 D12		
6471 C12		
6501 G6		
6502 H5		
6503 E5		
6504 E6		
6505 F7		
6506 G6		
6507 H10		
6508 H10		
6510 E3		
6511 E3		
6512 E4		
6513 E5		
7460 D10		
7461 G11		

PDP FHP Supply: Protection

1M03 A15 2304 D1 2305 D1 2306 D3 2322 D4 2324 E6 2343 E8 2350 D9 2352 E9
2364 E11 2366 F15 2376 G2 2377 G10 2381 H1 2385 F5 2386 G4 2387 G5 2388 G6
2397 C13 2398 C1 3068 F10 3074 G10 3102 E1 3103 C4 3300 B1 3301 C1 3304 D1
3306 D1 3307 E1 3308 C2 3311 C3 3312 C3 3313 D3 3317 E3 3320 B4 3321 C4
3322 D4 3323 D4 3324 D1 3325 G12 3326 G12 3327 G13 3328 F13 3332 C6 3333 C6
3334 D6 3335 E6 3340 C7 3341 C7 3342 D7 3343 E7 3344 D8 3345 C8 3346 C8
3347 D8 3348 C8 3349 C9 3350 D9 3351 D9 3352 E9 3353 E10 3354 E9 3355 D13
3356 D14 3357 D14 3358 C11 3359 C11 3360 D10 3361 C10 3362 D15 3363 E10 3364 E11
3366 D12 3367 D12 3368 D13 3369 D13 3370 D13 3373 F1 3374 F2 3376 G2 3377 G1
3378 E13 3380 H2 3381 H2 3383 E15 3384 F15 3386 G4 3388 F8 3389 F9 3390 G5
3391 F11 3392 G3 3393 G4 3394 G3 3395 G5 3396 G5 3397 F5 3398 F5 3399 F6
3806 G10 3807 H12 3808 G10 3809 F10 3811 F11 6312 C2 6313 D2 6321 C4 6322 D4
6325 F12 6333 C5 6334 D5 6335 G11 6340 C7 6341 D7 6344 D8 6347 C8 7004 D8 7304 E1
6364 D11 6365 E12 6366 G11 6367 F7 6375 F1 6376 G1 6378 F14 7330-1 D6 7330-2 D6 7330-3 D5
7308-1 D4 7308-2 D4 7308-3 D2 7308-4 D2 7326 G13 7327 G14 7330-1 D6 7330-2 D6 7330-3 D5
7330-4 D5 7341 C8 7348 D8 7351 D10 7352 D9 7362 D11 7363 G4 7366-1 F6 7366-2 E14
7366-3 D12 7366-4 F11 7375 F1 7376 H1 7389 F9 7391 F12 9005 C1 9006 B13 9020 B14
F311 G5 F312 G9 F318 G8 F319 H2 F320 H1 F322 H2 F323 H1 F325 D13 F326 D2
F327 D4 F328 D5 F329 D7 F330 C1 F335 C12 F343 D7 F368 A14 F371 B15 F390 F9
F372 B14 F374 B15 F375 B14 F377 B14 F378 B15 F379 B13 F381 F13 F390 F9
F937 D14 I301 G4 I302 C2 I303 F1 I304 D1 I305 F1 I306 E1 I307 E1 I308 F2
I310 G1 I311 G2 I313 C1 I316 D3 I318 C8 I319 D8 I320 D10 I321 D11 I322 D4
I323 D12 I325 G12 I326 G13 I327 F13 I330 D4 I332 C6 I335 D6 I339 E11 I341 D7
I344 D8 I345 D8 I347 D8 I349 C9 I350 D9 I351 D9 I352 D10 I363 D11
I364 D11 I367 D11 I379 E14 I380 F15 I382 F10 I384 F15 I385 F5
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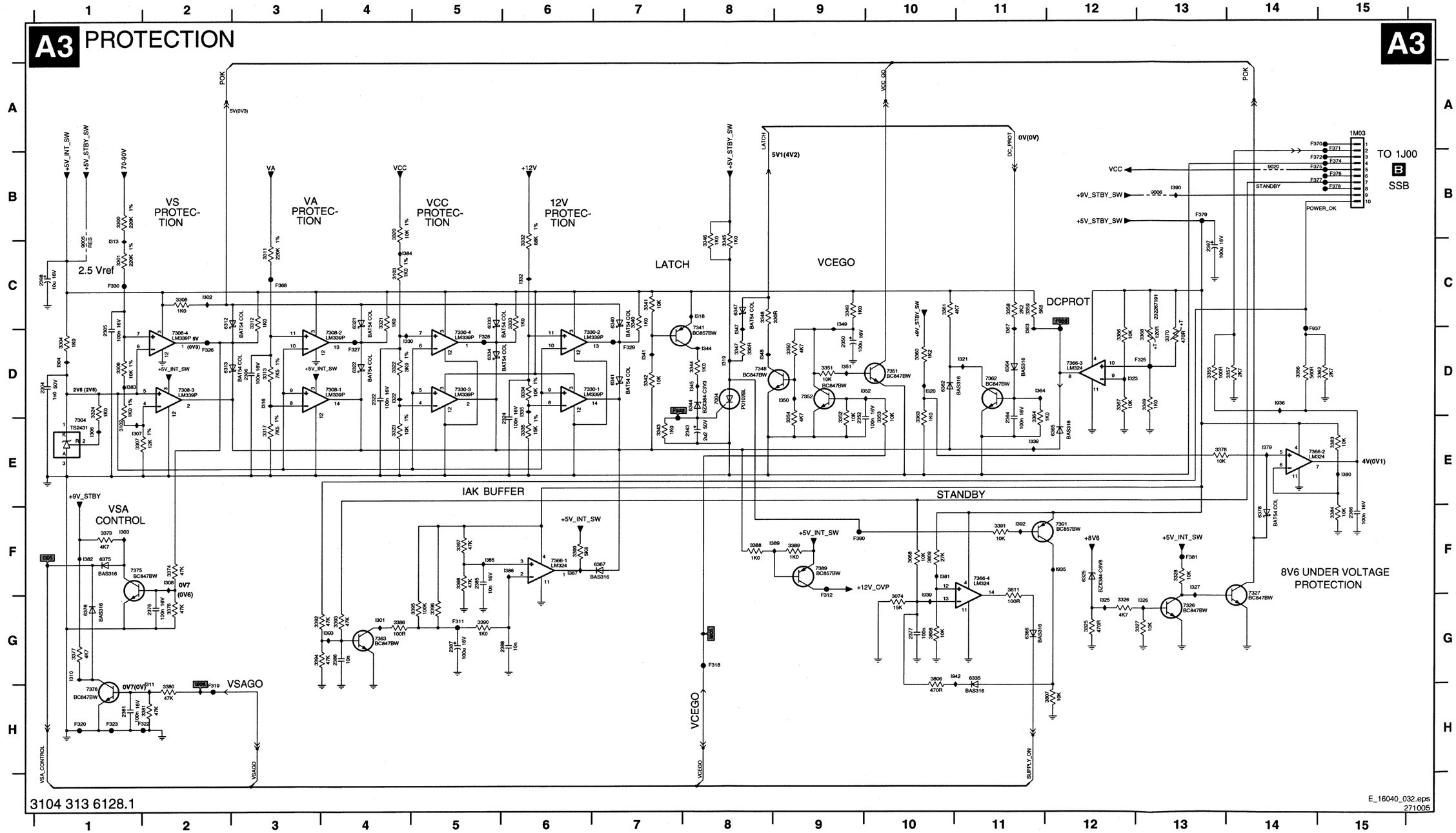
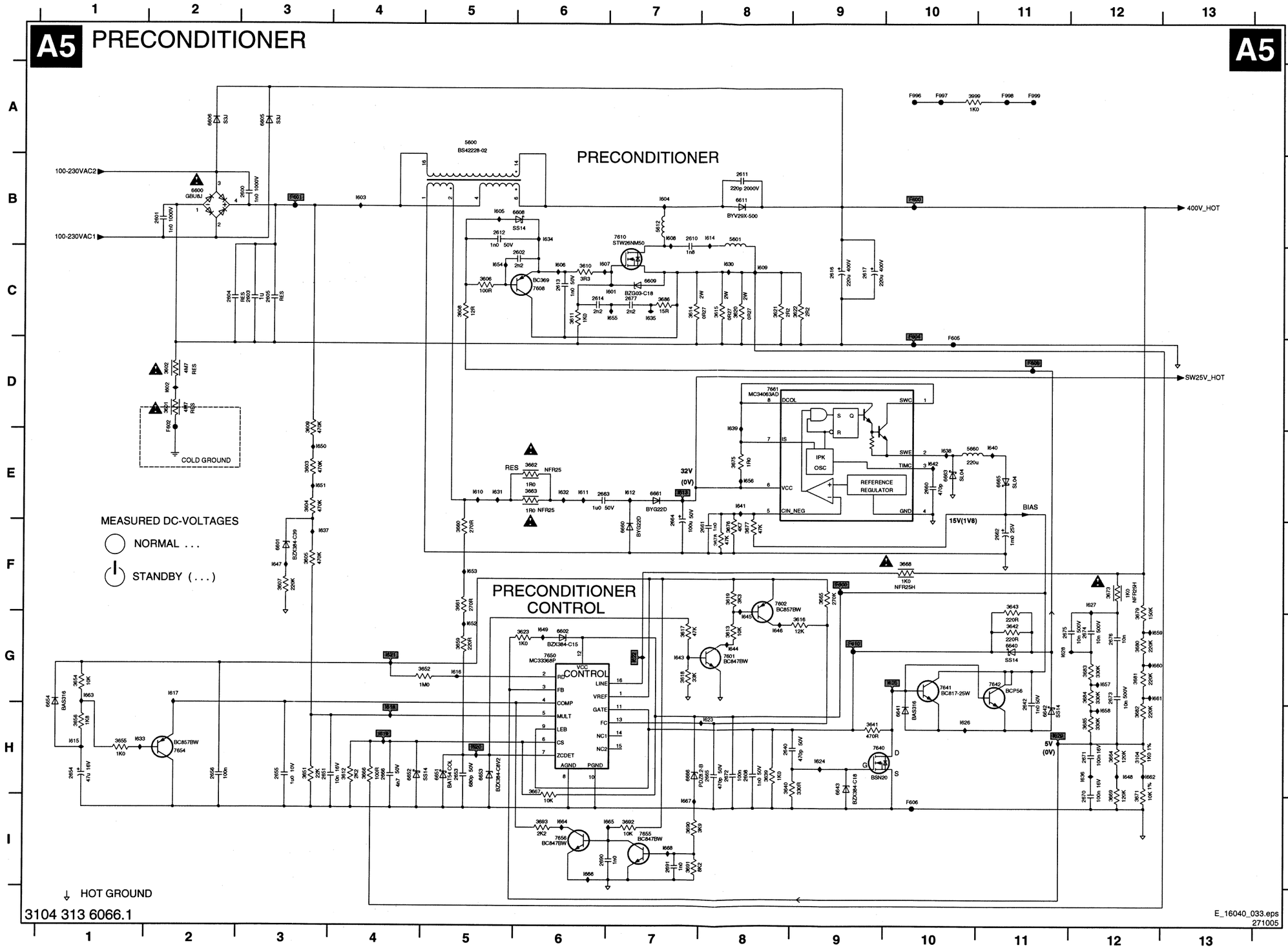


PDP FHP Supply: Pre Conditioner

A5 PRECONDITIONER



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2601 B2	3691 I7	I644 G8	
2602 C6	3692 I7	I645 G8	
2603 C3	3693 I6	I646 G8	
2604 C2	3999 A10	I647 F3	
2605 C3	5600 A5	I648 H12	
2608 H8	5601 B8	I649 G6	
2610 B7	5612 B7	I650 E3	
2611 B8	5660 E10	I651 E3	
2612 B5	6600 B2	I652 G5	
2613 C6	6601 F3	I653 F5	
2614 C6	6602 G6	I654 C5	
2616 C9	6605 A3	I655 C7	
2617 C9	6606 A2	I656 E8	
2640 H8	6608 B6	I657 G12	
2642 G11	6609 C7	I658 H12	
2651 H3	6611 B8	I659 G12	
2653 H5	6640 G11	I660 G12	
2654 H1	6641 H10	I661 G12	
2655 H3	6642 H11	I662 H12	
2656 H2	6643 H9	I663 G1	
2660 E10	6651 H5	I664 I6	
2661 F8	6652 H4	I665 I7	
2662 F11	6653 H5	I666 I6	
2663 E6	6654 G1	I667 I7	
2664 E7	6660 F7	I668 I7	
2665 H8	6661 E7		
2666 H4	6663 E10		
2670 H12	6665 E11		
2671 H12	6666 H7		
2672 H8	7601 G8		
2673 G12	7602 F8		
2674 G12	7608 C6		
2675 G11	7610 B7		
2676 G12	7640 H9		
2677 C7	7641 G10		
2690 I6	7642 G11		
2691 I7	7650 G6		
3104 H12	7654 H2		
3601 D2	7655 I7		
3602 D2	7656 I6		
3603 E3	7661 D8		
3604 E3	F600 B10		
3605 F3	F601 B3		
3606 C5	F602 D2		
3607 F3	F604 C10		
3608 C5	F605 D10		
3609 D3	F606 I10		
3610 C6	F608 D11		
3611 C6	F609 F9		
3612 H4	F610 G9		
3613 G8	F996 A10		
3614 C7	F997 A10		
3615 C8	F998 A11		
3616 G9	F999 A11		
3617 G7	I601 C7		
3618 G8	I602 D2		
3619 F8	I603 B4		
3620 C8	I604 B7		
3621 C8	I605 B5		
3622 C9	I606 C6		
3623 G6	I607 C6		
3639 H8	I608 B7		
3640 H8	I609 C8		
3641 H9	I610 E5		
3642 G11	I611 E6		
3643 F11	I612 E7		
3651 H3	I613 E7		
3652 G5	I614 B8		
3654 G1	I615 H1		
3655 H1	I616 G5		
3656 H1	I617 G2		
3659 G5	I618 H4		
3660 F5	I619 H4		
3661 F5	I620 H5		
3662 E6	I621 G4		
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3664 H12	I623 H8		
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3669 H12	I628 G11		
3671 H12	I629 H11		
3673 F12	I630 C8		
3675 E8	I631 E5		
3676 F8	I632 E6		
3677 F8	I633 H1		
3678 F8	I634 B6		
3679 F12	I635 C7		
3680 G12	I636 H12		
3681 G12	I637 F3		
3682 H12	I638 E10		
3683 G12	I639 D8		
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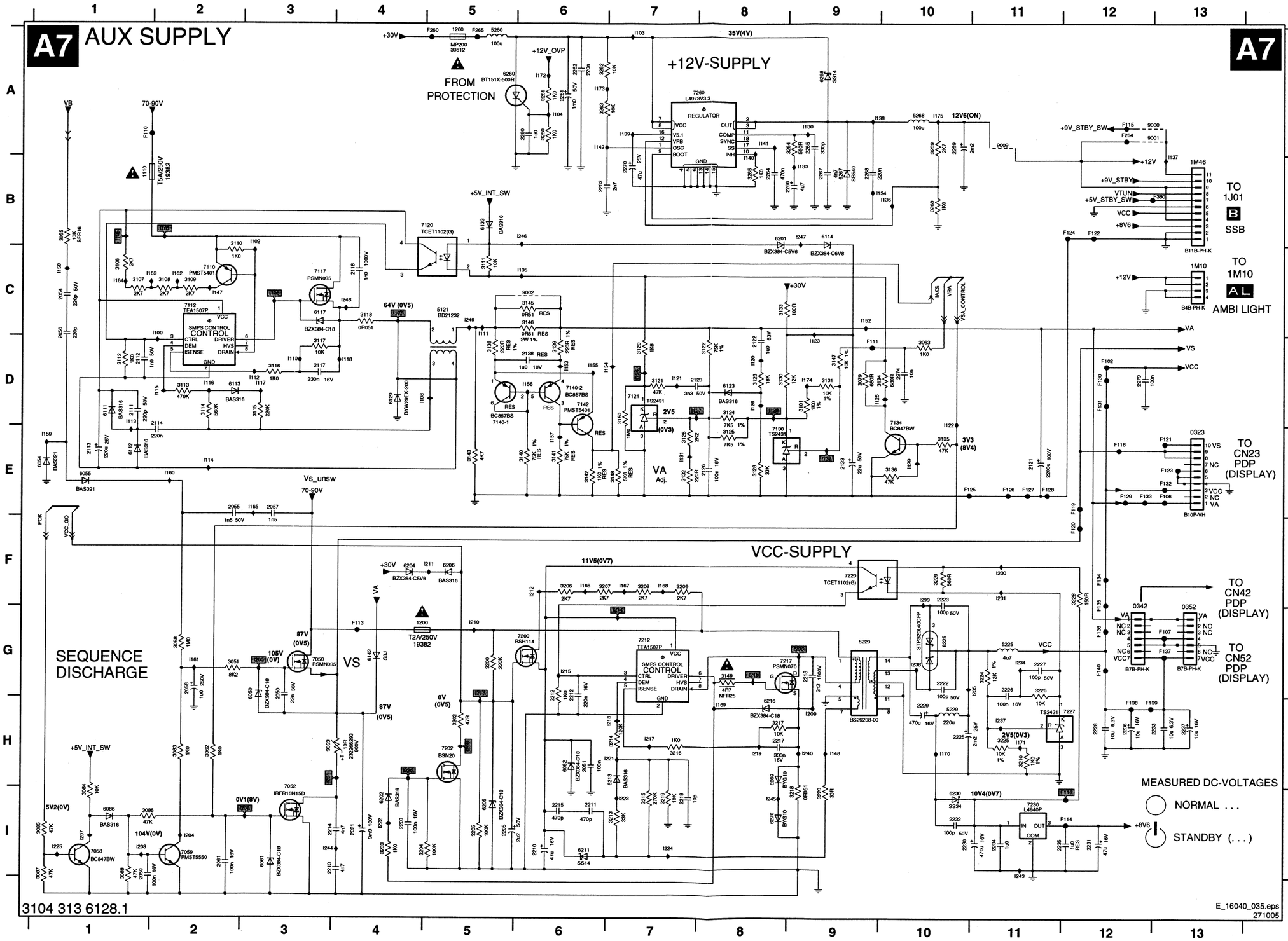
3686 C7	I642 E10		

PDP FHP Supply: LLC Supply

PDP FHP Supply: AUX Supply



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1110 B1	3200 G5	F139 H12
1200 G4	3202 H5	F140 G12
1260 A5	3203 I4	F260 A5
1M10 C13	3204 I5	F264 A12
1M46 B13	3205 I5	F265 A5
2021 I4	3206 F6	F380 B13
2050 G3	3207 F6	I101 B2
2051 H6	3208 F7	I102 B3
2054 C1	3209 F7	I103 A7
2055 E2	3210 H11	I104 A6
2056 C1	3212 G6	I105 B1
2057 E3	3213 I7	I106 C3
2058 G2	3214 H7	I107 C4
2059 I1	3215 I7	I108 D4
2061 I2	3216 H7	I109 C2
2111 D1	3217 H8	I110 D3
2112 D1	3218 I9	I111 C5
2113 E1	3219 I7	I112 D3
2114 E2	3220 I9	I113 D1
2117 D3	3224 G11	I114 E2
2118 C4	3225 H11	I115 D2
2121 E11	3226 G11	I116 D2
2122 D8	3228 F12	I117 D3
2123 D7	3229 F10	I118 D4
2126 E8	3260 A6	I120 D8
2133 E9	3261 A6	I121 D7
2138 D6	3262 A6	I122 D10
2203 I4	3263 A6	I123 D9
2205 I5	3264 A9	I124 D7
2210 I6	3265 B8	I125 D9
2211 I6	3268 B10	I126 D8
2212 G6	3269 A10	I127 D7
2213 I4	5121 C5	I128 D8
2214 I4	5220 G9	I129 E10
2215 I6	5225 G11	I130 A9
2217 H8	5229 H10	I131 E7
2218 G9	5260 A5	I132 E9
2219 I7	5268 A10	I133 B9
2222 G10	6050 G3	I134 B10
2223 F10	6054 E1	I135 C6
2225 H10	6055 E1	I136 B10
2226 G11	6061 I3	I137 B13
2227 G11	6062 H6	I138 A9
2228 H12	6086 I1	I139 A7
2229 H10	6111 D1	I140 B8
2230 I10	6112 E1	I141 A8
2231 I12	6113 D2	I142 A6
2232 I10	6114 B9	I147 C2
2233 H13	6117 C3	I148 H9
2234 I11	6120 D4	I152 C9
2235 I12	6123 D8	I153 D6
2236 H12	6133 B5	I154 D6
2237 H13	6142 G4	I155 D6
2260 A6	6201 B8	I156 D6
2261 A6	6202 I4	I157 E6
2262 A6	6204 F4	I158 C1
2263 B6	6205 I5	I159 E1
2264 B8	6206 F5	I160 E2
2265 A9	6211 I6	I161 G2
2266 B8	6213 H7	I162 C2
2267 B9	6216 H8	I163 C1
2268 B9	6225 G10	I164 C1
2269 A10	6230 I10	I165 E3
2270 B7	6260 A5	I166 F6
2273 D12	6267 B9	I167 F7
2274 D10	6268 A9	I168 F7
3051 G2	6269 H8	I169 H8
3053 H3	6270 I8	I170 H10
3055 B1	6271 B10	I171 H11
3058 G2	7050 G3	I172 A6
3062 H2	7052 I3	I173 A6
3063 D10	7058 I1	I174 D9
3079 D9	7059 I2	I175 A10
3083 H2	7060-1 B11	I176 B10
3084 I1	7060-2 B11	I177 B11
3085 I1	7061 C11	I178 B11
3086 I1	7110 C2	I179 B11
3087 I1	7112 C2	I180 B11
3088 I1	7117 C3	I181 C11
3101 D9	7120 B5	I200 G3
3106 C1	7121 D7	I201 H3
3107 C1	7130 E8	I202 I3
3108 C2	7134 D10	I203 I1
3109 C2	7140-1 D5	I204 I2
3110 C2	7140-2 D6	I207 I1
3111 C5	7142 D6	I208 H5
3112 D1	7200 G6	I209 H9
3113 D2	7202 H5	I210 G5
3114 D2	7212 G7	I211 F5
3115 D3	7217 G8	I212 F6
3116 D3	7220 F9	I213 G5
3117 D3	7227 H12	I214 G7
3118 C4	7230 I11	I215 G6
3120 D7	7260 A8	I216 G8
3121 D7	9000 A12	I217 H7
3122 D8	9001 A12	I218 H7
3123 D8	9002 C6	I219 H8
3124 D8	9009 A11	I220 H4
3125 E8	F102 D12	I221 H7
3126 E7	F106 E13	I222 I4
3128 E8	F107 G13	I223 I7
3130 D8	F110 A1	I224 I7
3131 D9	F111 D9	I225 I1
3132 E7	F113 G4	I230 F11
3133 C8	F114 I12	I231 F11
3134 D10	F115 A12	I233 F10
3135 E10	F116 I12	I234 G11
3136 E10	F118 E12	I235 G11
3138 D5	F119 E12	I236 G9
3139 D6	F120 F12	I237 H11
3140 E6	F121 E13	I238 G10
3141 E6	F122 B12	I240 H9
3142 E6	F123 E13	I243 I11
3143 E5	F124 B12	I244 I3
3145 C6	F125 E10	I245 I8
3146 C6	F126 E11	I246 B6
3147 D9	F127 E11	I247 B9
3148 E7	F128 E11	I248 C4
3149 G8	F129 E12	I249 C5
3150 D7	F130 D12	
3151 B10	F131 D12	
3152 B11	F132 E13	
3153 B11	F133 E12	
3154 C11	F134 F12	
3155 C11	F135 F12	

Layout PDP FHP Supply (Overview Top Side)

Ref	Pos
0201	B4
0203	D3
0204	D7
0308	G1
0309	G1
0311	G3
0323	F8
0342	F8
0352	E8
1002	A8
1003	F1
1004	F8
1005	G4
1082	C8
1083	B8
1084	A8
1110	D6
1200	E6
1260	F8
1400	F1
1402	F1
1450	F4
1460	E4
1M03	G5
1M05	G3
1M10	A8
1M46	G8
2000	A5
2001	E2
2002	G1
2003	E2
2004	E2
2005	A4
2006	A4
2007	A5
2008	A4
2009	A4
2010	A3
2011	B5
2012	A5
2013	C5
2014	B5
2015	A4
2016	A4
2017	C5
2018	A4
2019	E1
2020	B8
2021	D8
2022	B8
2023	E5
2024	E5
2025	E8
2026	A4
2027	A4
2028	C8
2029	C8
2030	E5
2031	E5
2032	A4
2033	A4
2034	B5
2035	A5
2036	A4
2037	B5
2038	D8
2039	B3
2040	B3
2041	B3
2042	B4
2043	E8
2044	C8
2045	C8
2046	B3
2047	A4
2048	A5
2049	A4
2050	E8
2051	F6
2052	B4
2053	A4
2054	D8
2055	D8
2056	D8
2057	D8
2058	C8
2059	D8
2060	A5
2061	D8
2062	A4
2070	B4
2071	B4
2090	B3
2111	D5
2112	D5
2113	D5
2114	D5
2117	D6
2118	C6
2121	C8
2122	E6
2123	D5
2126	D6
2133	E5
2138	E6
2203	F5
2205	F5
2210	F6
2211	F6
2212	F6
2213	D8
2214	D8
2215	F6
2217	F6
2218	E6
2219	F5
2222	F8
2223	F8
2225	F8
2226	E8
2227	E8
2228	E8
2229	E6
2230	E6
2231	E7
2232	E6
2233	E8
2234	E8
2235	E8
2236	E8
2237	E8
2260	F8
2261	G8
2262	G8
2263	G8
2264	G8
2265	G8
2266	G8
2267	G8
2268	G8
2269	F8
2270	G8
2273	G8
2274	D6
2290	B8
2291	B8
2292	A8
2293	C8
2294	A8
2295	B8
2296	C8
2304	G7
2305	G7
2306	G7
2322	G7
2324	G7
2343	G6
2350	G7
2352	G6
2364	G6
2366	G6
2376	G6
2377	G6
2381	G6
2385	G6
2386	G4
2387	G4
2388	G6
2397	G4
2398	G7
2400	G1
2401	E1
2402	G1
2403	E1
2404	F2
2405	E1
2406	E2
2407	D1
2408	E2
2410	F3
2465	E5
2502	F5
2503	F4
2504	G4
2505	B3
2507	F5
2508	F5
2509	F5
2510	F5
2511	G4
2512	G4
2513	G4
2532	G3
2533	G4
2534	G5
2540	G5
2541	G5
2542	F5
2600	E2
2601	D2
2602	B2
2603	B1
2604	C1
2605	C1
2608	A2
2610	C2
2611	D2
2612	B2
2613	B2
2614	B2
2616	D4
2617	C4
2640	A2
2642	A2
2651	A2
2653	A2
2654	B2
2655	A3
2656	B3
2660	A2
2661	A1
2662	A3
2663	A2
2664	A2
2665	B3
2666	A2
2670	A3
2671	A3
2672	A2
2673	B2
2674	B2
2675	B2
2676	B2
2677	B2
2690	B3
2691	B3
3001	B4
3002	B4
3003	A4
3004	A4
3005	A4
3006	A4
3007	A4
3008	A5
3009	A5
3010	A4
3011	A4
3012	A4
3013	A4
3014	C4
3015	C4
3016	C4
3017	B4
3018	B4
3019	B4
3020	A3
3021	B5
3022	E5
3023	E5
3024	D8
3025	E5
3026	G4
3027	A4
3028	E5
3029	E5
3030	E5
3031	E5
3032	E5
3033	B3
3034	E5
3035	F4
3036	D1
3037	D8
3038	D8
3039	D8
3040	E5
3041	E5
3042	A4
3043	A4
3044	A4
3045	A4
3046	A5
3047	A4
3048	A4
3049	A3
3050	B5
3051	D8
3052	D8
3053	D8
3054	B3
3055	C8
3056	A3
3057	E5
3058	D8
3059	B4
3060	B3
3061	B4
3062	D8
3063	D6
3064	A4
3065	A4
3066	A4
3067	A4
3068	G5
3069	A4
3070	A4
3071	A4
3072	D8
3073	B3
3074	G6
3075	C4
3076	C4
3077	A5
3078	B4
3079	D5
3080	E5
3081	B4
3082	B3
3083	D8
3084	D8
3085	D8
3086	D8
3087	D8
3088	D8
3089	A4
3090	A3
3091	B3
3092	A3
3093	B3
3094	A3
3095	A4
3096	A4
3097	A4
3098	E5
3100	E5
3101	D6
3102	G7
3103	G7
3104	A3
3106	D6
3107	D6
3108	D6
3109	D6
3110	D6
3111	E5
3112	D5
3113	D5
3114	D5
3115	D5
3116	D6
3117	D6
3118	D7
3120	D5
3121	D5
3122	E6
3123	E6
3124	D6
3125	D6
3126	E6
3128	E6
3130	D5
3131	D6
3132	E5
3133	E5
3134	D5
3135	D5
3136	D5
3138	E6
3139	E6
3140	E6
3141	E6
3142	E6
3143	E6
3145	E6
3146	E6
3147	D6
3148	E6
3149	F5
3150	D5
3200	F5
3202	F6
3203	G6
3204	F5
3205	F5
3206	F5
3207	F5
3208	F5
3209	F5
3210	E8
3212	F6
3213	F6
3214	F6
3215	F6
3216	F6
3217	F6
3218	F6
3219	F5
3220	G6
3224	E8
3225	E8
3226	E8
3228	E8
3229	E8
3260	F8
3261	F8
3262	G8
3263	G8
3264	G8
3265	G8
3268	G8
3269	G7
3292	B8
3300	E6
3301	E6
3304	G7
3306	G7
3307	G7
3308	G6
3311	F8
3312	G7
3313	G7
3317	G7
3320	G7
3321	G7
3322	G7
3323	G7
3324	G7
3325	F7
3326	G7
3327	F7
3328	G8
3332	G7
3333	G7
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3335	G7
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3343	G6
3344	G6
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3346	G6
3347	G6
3348	G6
3349	G7
3350	G7
3351	G7
3352	G6
3353	G6
3354	G6
3355	G5
3356	G4
3357	G5
3358	G6
3359	G6
3360	G5
3361	G5
3362	G4
3363	G5
3364	G6
3366	G7
3367	G6
3368	F7
3369	G6
3370	F7
3373	G6
3374	G6
3376	G6
3377	G6
3378	G5
3380	G6
3381	G6
3383	G6
3384	G6
3386	G4
3388	G7
3389	G7
3390	G6
3391	G6
3392	G4
3393	G5
3394	G5
3395	G4
3396	G4
3397	G6
3398	G6
3399	G6
3400	F2
3401	G1
3404	E1
3450	E4
3451	E4
3452	C1
3460	E5
3461	E5
3463	F5
3465	F5
3467	F5
3469	E5
3470	F5
3471	G5
3472	G5
3501	G4
3502	G4
3503	G5
3504	G5
3505	F5
3506	E4
3507	F4
3508	D4
3509	D4
3601	A5
3602	A5
3603	A2
3604	A2
3605	A2
3606	B2
3607	A2
3608	B2
3609	A2
3610	B2
3611	B2
3612	A2
3613	B2
3614	C2
3615	C2
3616	B2
3617	A2
3618	A2
3619	B2
3620	C2
3621	C2
3622	C2
3623	A3
3639	A2
3640	A2
3641	A2
3642	A2
3643	A2
3651	A2
3652	B2
3654	B2
3655	A3
3656	B2
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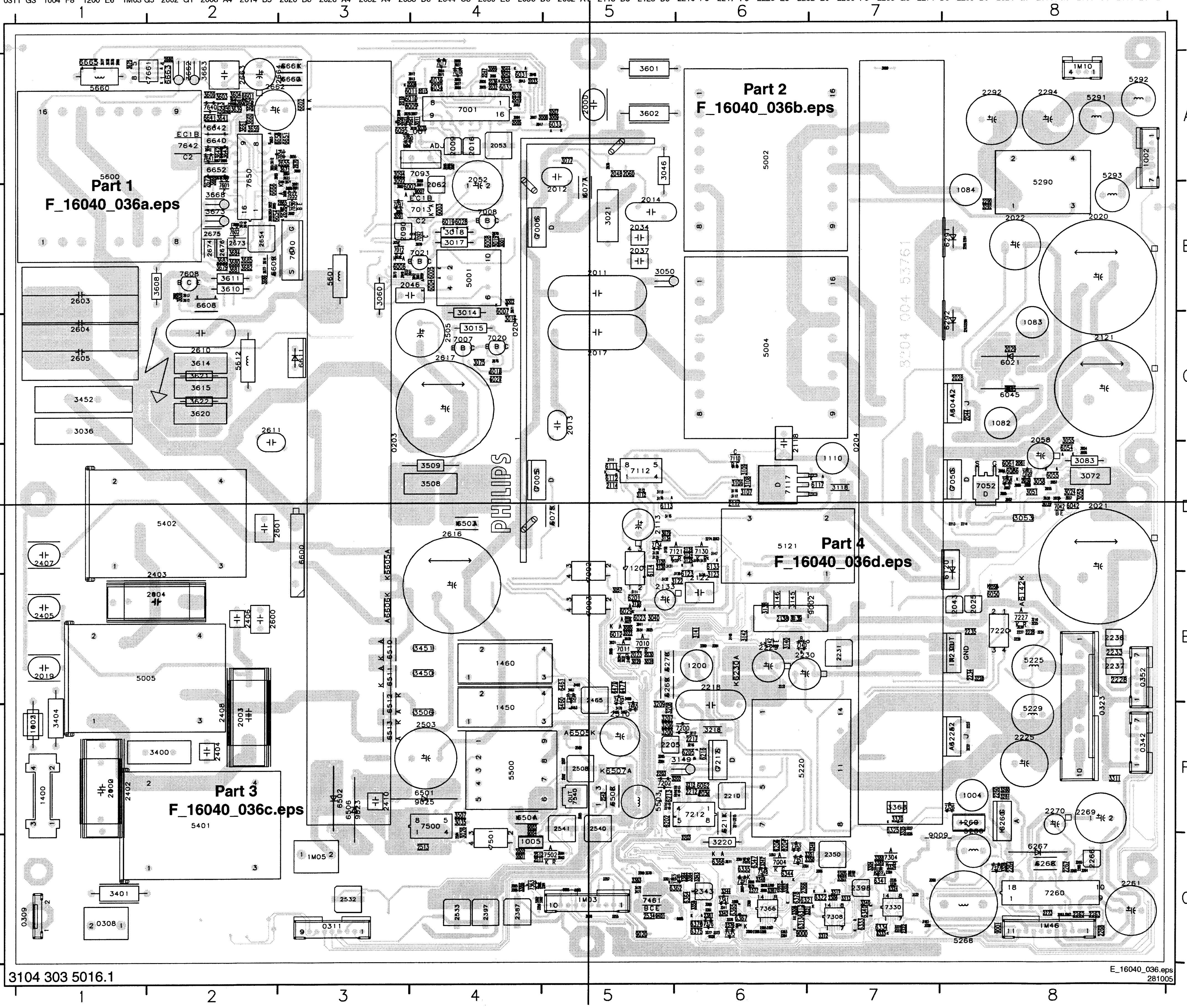
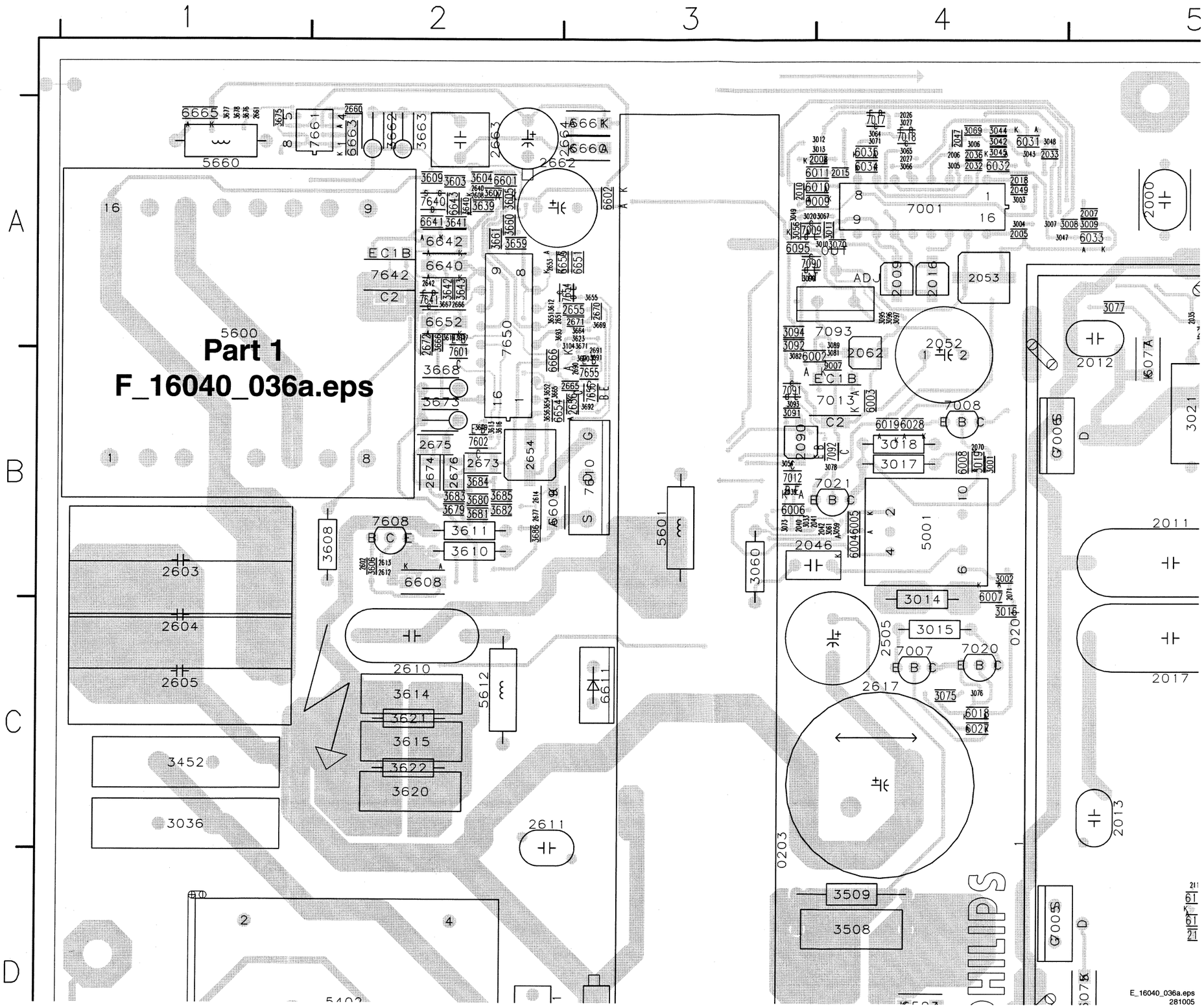
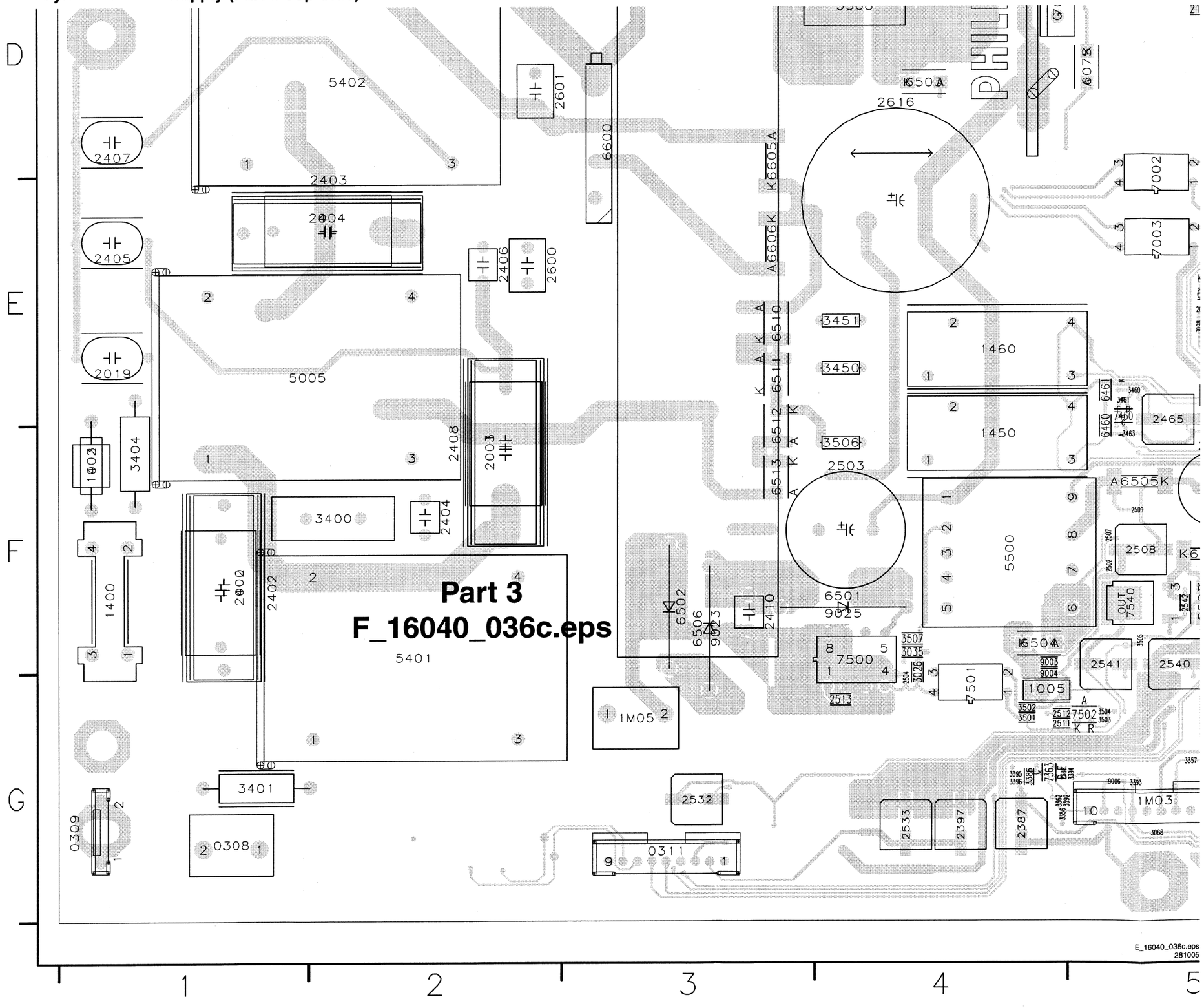
3660	A2
3661	A2
3662	A2
3663	A2
3664	A3
3665	B2
3666	A2
3667	A2
3668	B2
3669	A3
3671	A3
3673	B2
3675	A1
3676	A1
3677	A1
3678	A1
3679	B2
3680	B2
3681	B2
3682	B2
3683	B2
3684	B2
3685	B2
3686	B2
3690	B3
3691	B3
3692	B3
3693	A2
3806	G6
3807	G6
3808	G6
3809	G6
3811	G6
3999	A7
5001	B4
5002	A5
5004	C5
5005	E1
5121	D6
5220	E7
5225	E8
5229	E8
5260	G8
5268	G8
5290	A8
5291	A8
5292	A8
5293	A8
5401	F3
5402	D2
5500	F4
5503	F5
5600	B2
5601	B3
5612	C2
5660	A1
6002	A4
6003	B4
6004	B4
6005	B4
6006	B3
6007	C4
6008	B4
6009	A4
6010	A4
6011	A3
6012	E5
6018	C4
6019	B4
6021	C8
6023	E5
6027	C4
6028	B4
6029	E5
6031	A4
6032	A4
6033	A5
6034	A4
6035	A4
6042	D8
6044	C8
6045	C8
6050	E8
6054	D8
6055	D8
6061	D8
6062	F6
6075	D5
6077	B5
6086	D8
6095	A3
6111	D5
6112	D5
6113	D5
6114	E5
6117	D7
6120	D8
6123	D6
6133	D6
6142	E8
6201	E5
6202	F5
6204	G6
6205	F6
6206	G6
6211	F6
6213	F5
6216	F6
6225	F8
6230	E6
6260	F8
6267	G8
6268	G8
6269	E5
6270	E5
6291	B8
6292	B8
6312	G6
6313	G7
6321	G6
6322	G7
6325	F7
6333	G7
6334	G7
6335	G6
6340	G7
6341	G7
6344	G6
6347	G6
6362	G5
6364	G6
6365	G6
6366	G6
6367	G6
6375	G6
6376	G6
6378	G6
6460	F5
6461	E5
6470	E5
6471	E5
6501	F3
6502	F3
6503	D4
6504	F4
6505	F5
6506	F3
6507	F5
6508	F5
6510	E3
6511	E3
6512	E3
6513	F3
6600	E3
6601	A2
6602	A3
6605	D3
6606	E3
6608	B2
6609	B2
6611	C3
6640	A2
6641	A2
6642	A2
6643	A2
6651	A3
6652	A2
6653	A2
6654	B2
6660	A3
6661	A3
6663	A2
6665	A1
6666	B2
7001	A4
7002	D5
7003	E5
7004	G6
7005	D5
7006	B5
7007	C4
7008	B4
7009	A3
7010	E5
7011	E5
7012	B3
7013	B4
7017	A4
7018	A4
7020	C4
7021	B4
7042	D8
7050	D8
7052	D8
7058	D8
7059	D8
7090	A3
7091	B3
7092	B4
7093	A3
7110	D6
7112	D5
7117	D6
7120	D5
7121	D6
7130	D6
7134	D5
7140	E7
7142	E6
7200	F6
7202	F5
7212	G6
7217	F6
7220	E8
7227	E8
7230	E8
7260	G8
7304	G7
7308	G7
7326	F8
7327	G8
7330	G7
7341	G6
7348	G6
7351	G6
7352	G6
7362	G5
7363	G4
7366	G6
7375	G6
7376	G6
7389	G7
7391	G6
7460	E5
7461	G5
7465	F5
7470	E5
7500	G4
7501	G4
7502	G5
7540	F5
7601	B2
7602	B2
7608	B2
7610	B3
7640	A2
7641	A2
7642	A2
7650	A2
7654	A3
7655	B3
7656	B3
7661	A2
9000	G6
9001	G8
9002	E7
9003	F4
9004	G4
9005	G6
9006	G5
9007	B4
9009	G7
9020	G5
9023	F3
9025	F3
9028	G6
9401	G5



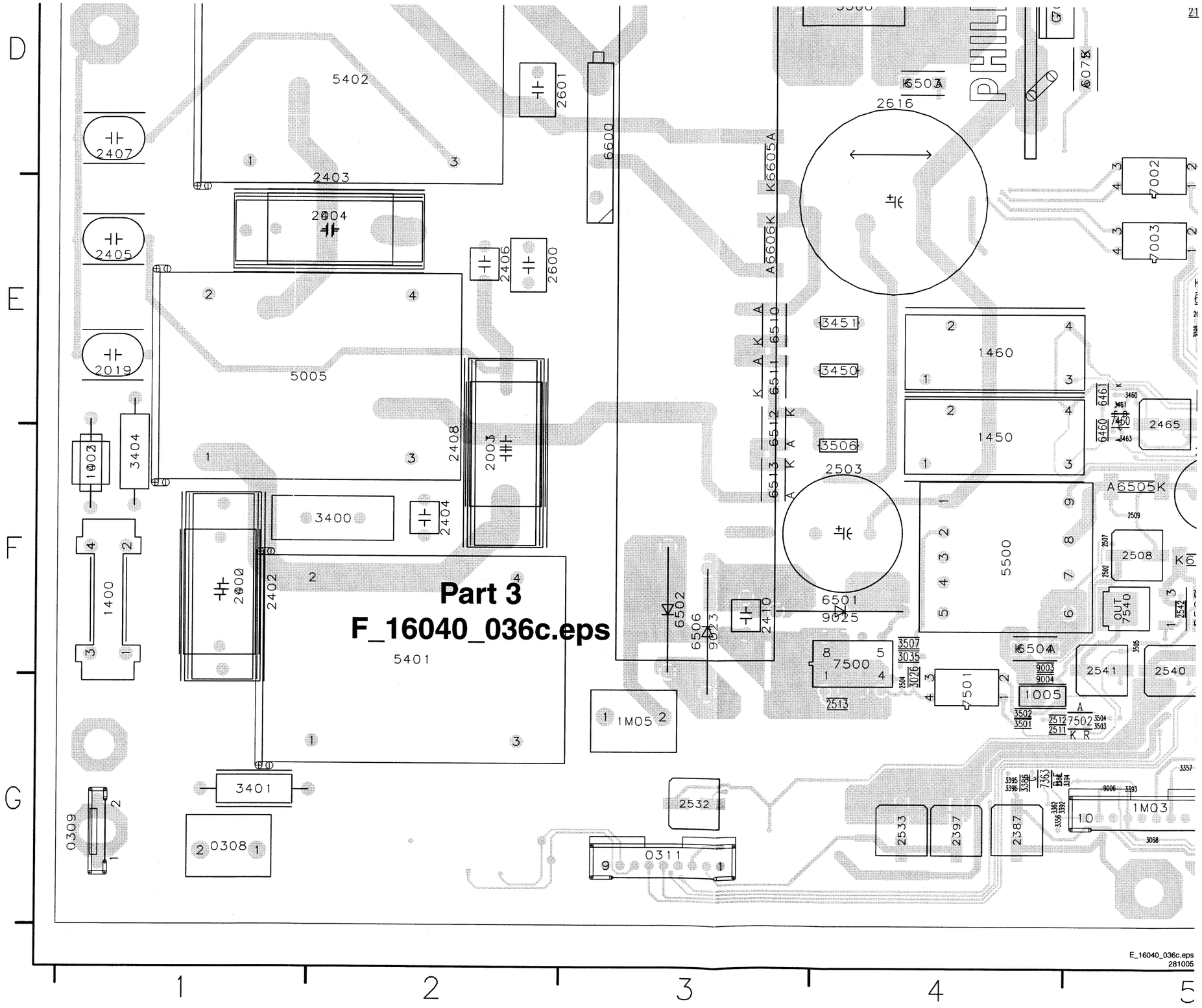
Layout PDP FHP Supply (Part 1 Top Side)



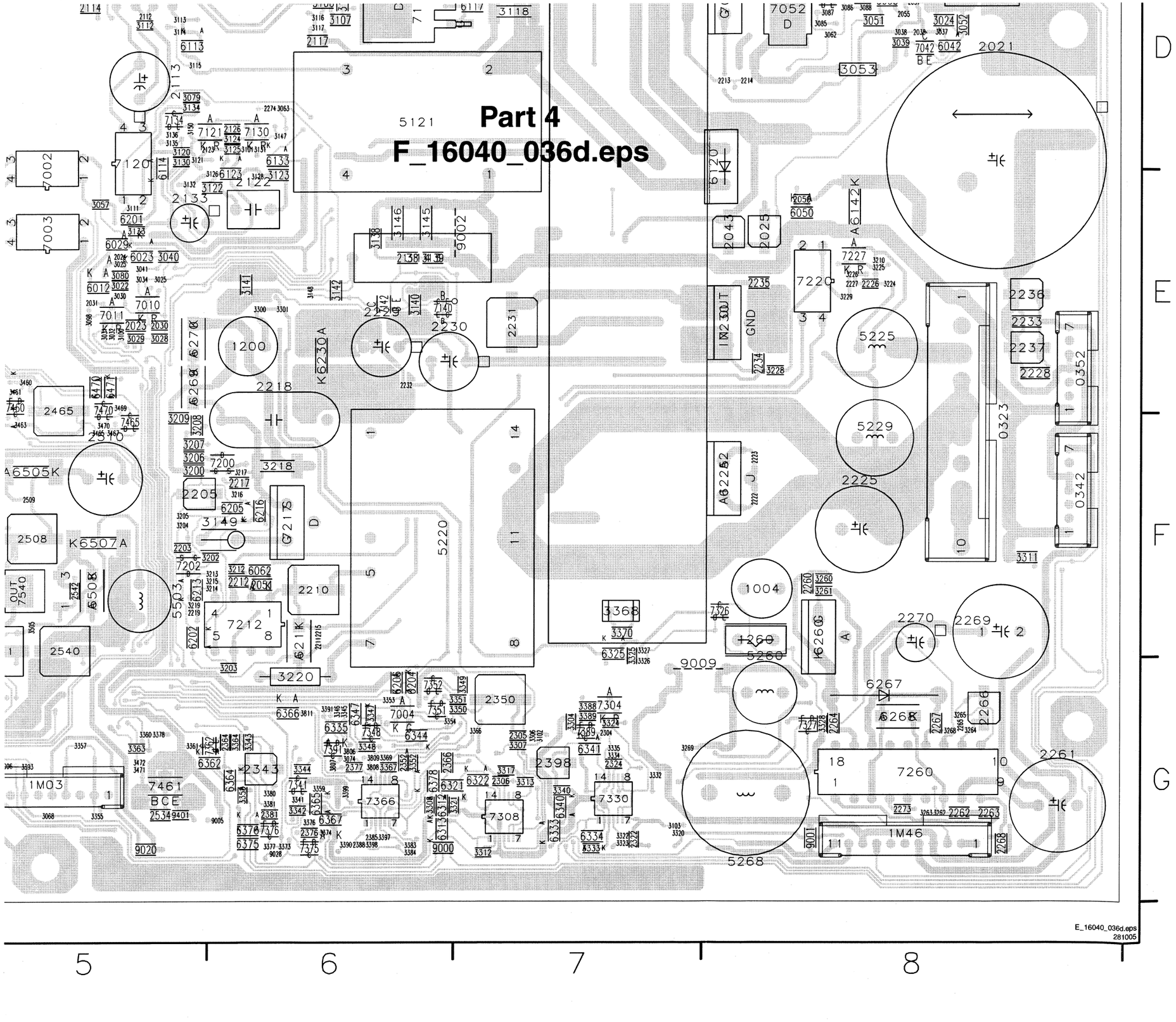
Layout PDP FHP Supply (Part 3 Top Side)



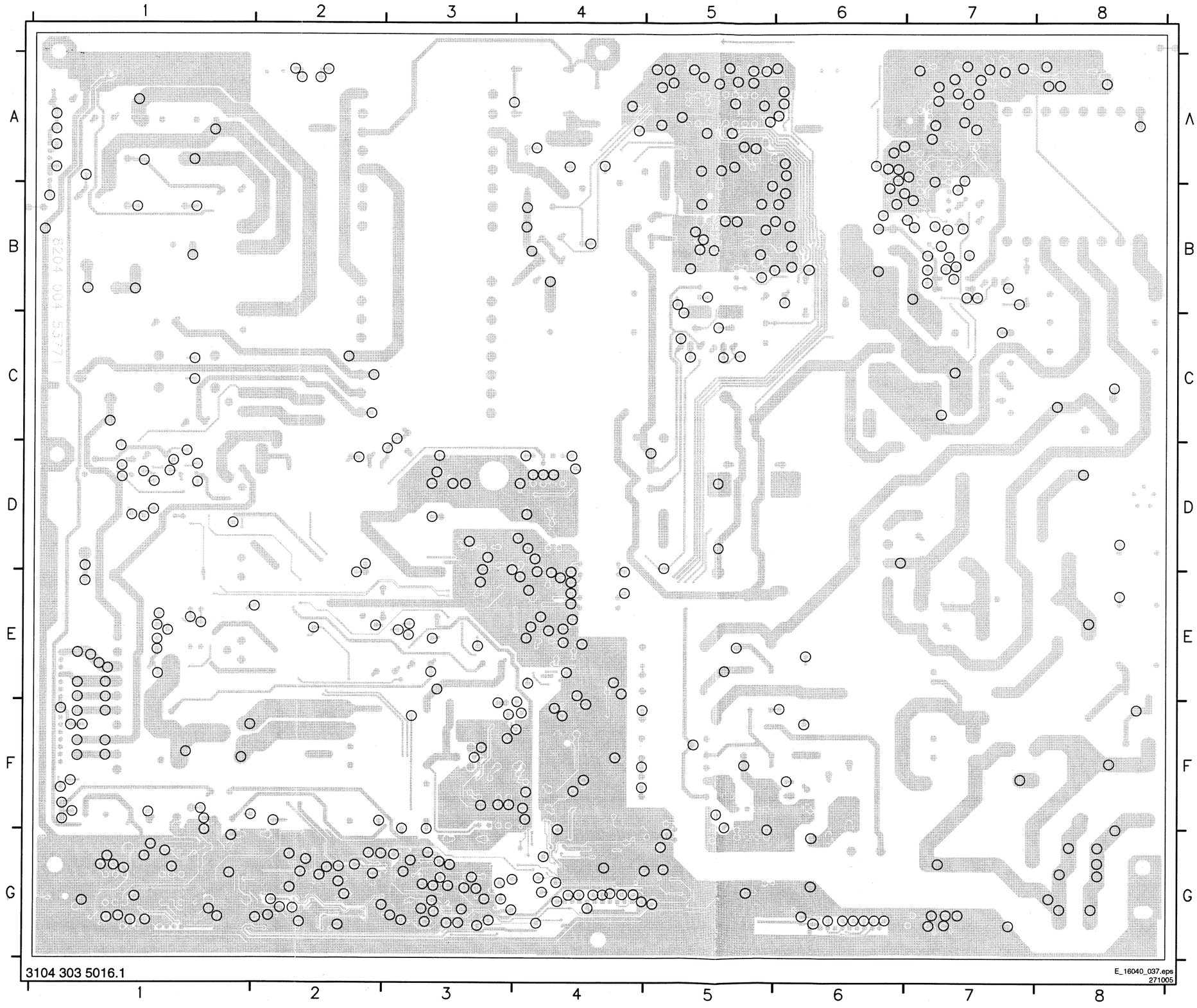
Layout PDP FHP Supply (Part 3 Top Side)



Layout PDP FHP Supply (Part 4 Top Side)



Layout PDP FHP Supply (Bottom View)



SSB: Tuner and IF

B1 TUNER & IF

*	STANDARD SD2	IDTV SD2	FM RADIO SD2
EUROPE	UV1318S/AI H N3	UV1318SD/A CPHN 3	UR1316S/A I H3
CHINA	UV1318SI/AI C H3	-	UR1316S/A I H3
AP(PAL)	UV1316E/A I H4	-	UR1316S/A I H3
NA/LA/AP(NTSC)	UV1338/A F SH4	-	UR1336/A F I S H3

*	EU	AP	CHINA	NAFTA
4102	Y	Y	--	Y
4103	--	--	Y	--
4104	--	Y	--	--
4106	Y	--	Y	--
4110	Y	Y	Y	Y
4111	Y	--	--	--
4113	--	Y	Y	--
4107	--	--	Y	--
4108	--	--	Y	--

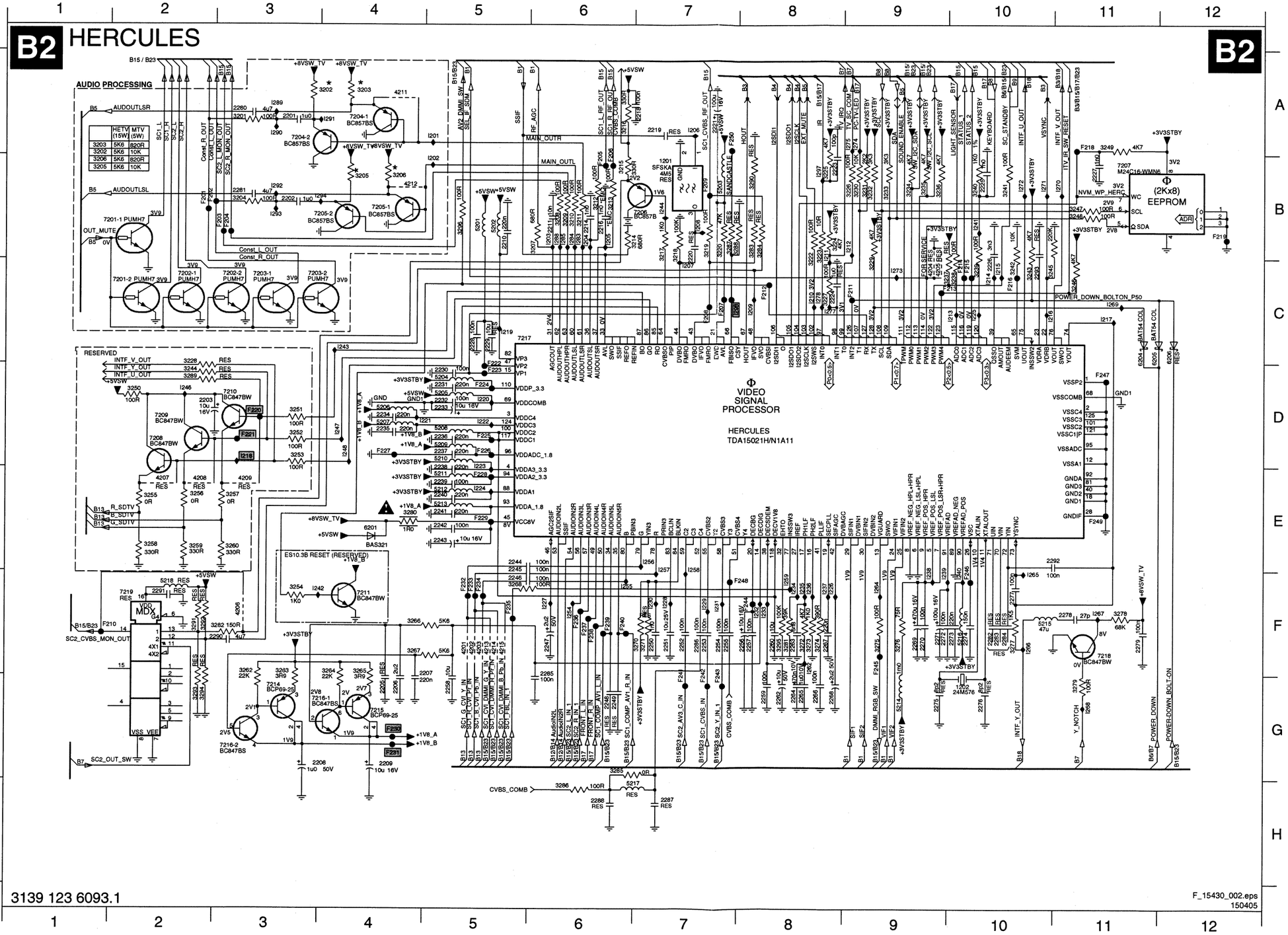
*	1104	1105	1106
EUROPE	OFWK3953L	--	OFWK9656L
AP	OFWK7265L	--	OFWK9361L
CHINA	OFWK3956L	OFWK9355L	OFWK9352L
NAFTA	OFWM1967L	--	--

*	Non-EU	EU
3104	0R	10K
6103	-	Yes

3139 123 6093.1

F_15430_001.eps 140405

SSB: Hercules



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1201 B7	3215 B6	5209 D5	I216 C10	
1202 G10	3216 A6	5210 D5	I217 C11	
2201 A3	3217 B7	5211 E5	I218 D3	
2202 B3	3218 B7	5212 E5	I219 C5	
2203 D2	3219 B7	5213 E5	I220 D5	
2205 G4	3220 B7	5214 G9	I221 D5	
2206 G4	3222 B8	5215 F10	I222 D5	
2207 F5	3223 B8	5216 F10	I223 D5	
2208 G4	3224 B8	5217 H7	I224 E5	
2209 G4	3225 B8	5218 F2	I225 C10	
2210 B5	3226 B9	6201 F4	I226 F8	
2211 B6	3227 C8	6204 C11	I227 F6	
2214 B6	3228 D2	6205 C11	I228 F7	
2216 B6	3229 C9	6206 C12	I229 F7	
2218 A7	3230 B9	7201-1 B1	I230 F7	
2219 A7	3231 B9	7201-2 C2	I231 F7	
2220 B7	3232 B9	7202-1 C2	I232 F8	
2221 A7	3233 B9	7202-2 C3	I233 F8	
2223 B8	3234 B9	7203-1 C3	I234 F8	
2224 C8	3235 B9	7203-2 C3	I235 F8	
2225 B10	3236 B9	7204-1 A4	I236 F8	
2226 C10	3237 C9	7204-2 A3	I237 F8	
2227 B11	3238 C10	7205-1 B4	I238 F9	
2228 C5	3239 C10	7205-2 B4	I239 F9	
2229 C5	3240 B10	7206 B6	I240 F10	
2230 D5	3241 B10	7207 B11	I241 B10	
2231 D5	3242 C10	7208 D2	I242 F4	
2232 D5	3243 C10	7209 D2	I243 C4	
2233 D5	3244 D2	7210 D3	I244 B7	
2234 D4	3245 C10	7211 F4	I246 D2	
2235 D4	3246 C11	7214 G3	I247 D4	
2236 D5	3247 B11	7215 G4	I248 D4	
2237 D5	3248 B11	7216-1 G3	I254 F6	
2238 E5	3249 A11	7216-2 G3	I255 F6	
2239 E5	3250 D2	7217 C6	I256 E7	
2240 E5	3251 D3	7218 F11	I257 E7	
2241 E5	3252 D3	7219 F2	I258 E7	
2242 E5	3253 D3	F201 B2	I259 F8	
2243 E5	3254 F3	F202 B2	I262 F8	
2244 E5	3255 E2	F203 B3	I264 F9	
2245 E5	3256 E2	F204 B3	I265 F10	
2246 F5	3257 E3	F205 B6	I266 F10	
2247 F6	3258 E2	F206 B6	I267 F11	
2248 G6	3259 E2	F207 C7	I268 G11	
2249 G6	3260 E3	F208 C7	I269 C11	
2250 F7	3262 F3	F209 B7	I270 B11	
2251 F7	3263 F3	F210 F1	I271 B10	
2252 F7	3264 F4	F211 C9	I272 B10	
2253 F7	3265 F4	F212 C8	I273 C9	
2254 F7	3266 F4	F213 C10	I274 A9	
2255 F7	3267 F4	F214 C10	I275 A9	
2256 F8	3268 F5	F215 C10	I277 C8	
2257 F8	3270 F7	F216 C10	I278 C8	
2258 G5	3271 F7	F218 A11	I283 B6	
2259 G8	3272 F8	F219 B12	I284 B6	
2260 F8	3273 F8	F220 D3	I285 B6	
2262 G8	3274 F8	F221 D3	I288 B6	
2263 F8	3275 F9	F222 D5	I289 A3	
2264 G8	3276 F9	F223 D5	I290 A3	
2265 G8	3277 F10	F224 D5	I291 A4	
2266 G8	3278 F11	F225 D5	I292 B3	
2267 F8	3279 G11	F226 D5	I293 B3	
2268 G8	3280 E4	F227 D4	I294 B3	
2269 F9	3281 F8	F228 E5	I297 B8	
2270 F9	3282 F3	F229 E5	I298 C7	
2271 F9	3283 B8	F230 G4		
2272 F9	3284 B8	F231 G4		
2273 F10	3285 G6	F232 F5		
2274 F10	3286 H6	F233 F5		
2275 G9	3287 B7	F234 F5		
2276 G10	3288 B7	F235 F5		
2277 F10	3289 D2	F236 F6		
2278 F11	3290 B8	F237 F6		
2279 F11	3291 F2	F238 F6		
2280 A3	3292 F2	F239 F6		
2281 B3	3293 G2	F240 F6		
2282 F10	3294 G2	F241 G7		
2283 F10	3295 F8	F242 G7		
2284 F10	3296 B5	F243 G7		
2285 F6	4201 F5	F244 F8		
2286 F7	4202 F5	F245 F9		
2287 H7	4203 F5	F246 F10		
2288 H6	4204 C9	F247 D11		
2290 F3	4205 C9	F248 F8		
2291 F2	4206 F3	F249 E11		
2292 E11	4207 E2	F250 A7		
2293 C10	4208 E2	I201 A5		
3201 A3	4209 E3	I202 B5		
3202 A4	4211 A4	I203 B6		
3203 A4	4212 B4	I204 B6		
3204 B3	4213 F5	I205 B6		
3205 B4	4214 F5	I206 A7		
3206 B4	4215 F5	I207 C7		
3207 B6	5201 B5	I208 B7		
3208 B6	5202 B5	I209 C8		
3209 B6	5203 B7	I210 C8		
3210 B6	5204 D5	I211 B8		
3211 B6	5205 D5	I212 B9		
3212 B6	5206 D4	I213 C10		
3213 B6	5207 D4	I214 C10		
3214 B7	5208 D5	I215 C10		

SSB: Sync Interface

B3 SYNC INTERFACE

B3

+3V3STBY
+5VSW
3431 1K0
6430 BZX384-C2V7
I453
6431 1N4148
I430
B17 TO SIDE CONNECTORS
LED_SEL
I454
0V
7430 PDTC114ET
3V1
3432 RES
ITV_IR_SW_RESET

B2

HOUT
+3V3STBY
3451 4K7
I443
4436 RES
+3V3SW
7436-1 74LVC14APW
3453 100R
3454 100R
Hsync_SDTV

B19 B18 B13

VSYNC
I440
4437 RES
+3V3SW
7436-2 74LVC14APW
3455 100R
3456 100R
Vsync_SDTV

B18

B19

B13

COL_HREF
4440
3458 100R
H_DELAY
4438 RES
+3V3SW
7436-3 74LVC14APW
3463 RES
7436-4 74LVC14APW
3459 100R
H_1FH

COL_VA
4441
3461 100R
Vsync_SDTV
4439 RES
7436-6 74LVC14APW
7436-5 74LVC14APW
2449 100n
3462 100R
V_1FH

B7

SC1_CVBS_RF_OUT

B2 & B15

1440
I449
I450
BM05B-SRSS-TBT

+12VSW
5431
I451
I452
2447 10p
2448 10p
1441
(NC)
S3B-PH-SM4-TB

FOR ITV ONLY

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1440 D9
1441 E9
2447 E8
2448 E9
2449 E4
3431 A3
3432 B3
3451 A5
3453 B6
3454 B7
3455 C6
3456 C7
3458 D2
3459 D4
3461 E2
3462 E4
3463 C4
4436 A6
4437 B6
4438 D2
4439 E2
4440 D2
4441 E2
5431 E8
6430 A3
6431 B3
7430 B3
7436-1 A6
7436-2 C7
7436-3 D3
7436-4 D4
7436-5 E4
7436-6 E3
I430 B3
I440 C6
I443 B5
I449 D8
I450 D8
I451 E9
I452 E9
I453 B3
I454 B2

SSB: Audio Delay line (Reserved)

B4 AUDIO DELAY LINE (RESERVED)

+5VSWI — 5501 1u0 — F501 — +5VD

COUNTER 7501 M74HC590T: +5VD, 2501 100n, VCC, EN3, C2, G1 CTR8, 1+ (CT=255)Z4, CT=0, 2D▷3▽, GND

7502 CY62256LL-70ZC: RAM 32kx8, A 0 32k-1, 2EN, A▽ A1D, 2C1 G2, 2V5, 2V3, 5V3, 2V6, 2502 100n, F502

LATCH 7505 74HC573PW: 2504 100n, EN C1, 1D, 5V3, 2V3, 2V6

LATCH 7506 74HC573PW: 2505 100n, EN C1, 1D, 5V3, 2V3

4507 RES, 4508 RES, 4509 RES, 4510 RES, 4511 RES, 4512 RES, 4513 RES, 4514

F503 I2SDI1 — B2

2506 330p

F504 I2SDO1

2507 470p

COUNTER 7503 M74HC590T: +5VD, 2503 100n, VCC, EN3, C2, G1 CTR8, 1+ (CT=255)Z4, CT=0, 2D▷3▽, GND

I503 4501 2V6
I504 4502 2V6
I505 4503 * 2V6

4504 * RES, 4505 RES, 4506 RES

★	LCD	PDP
4503	N	Y
4504	Y	N

+5VD — 3501 470R — I501 2V3 — 7504 BC847BW — 0V2 — I502 — 2508 82p — 3502 47K — 2509 82p

F505 I2SCLK

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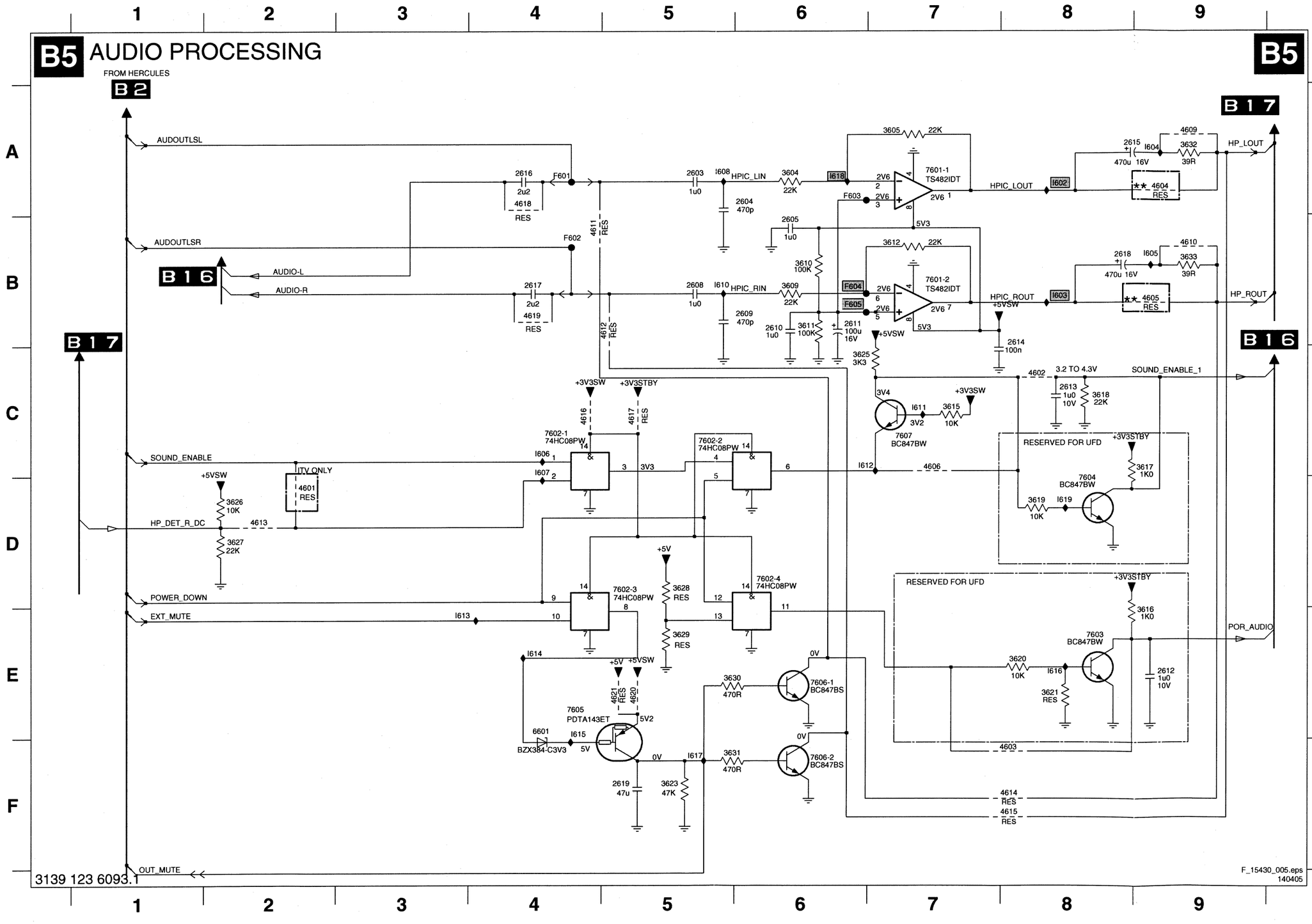
SSB: Audio Processing



2603 A5 I602 A8
2604 A6 I603 B8
2605 B6 I604 A9
2608 B5 I605 B9
2609 B6 I606 C4
2610 B6 I607 C4
2611 B6 I608 A5
2612 E9 I610 B5
2613 C8 I611 C7
2614 B8 I612 C6
2615 A8 I613 E3
2616 A4 I614 E4
2617 B4 I615 E4
2618 B8 I616 E8
2619 F5 I617 F5
3604 A6 I618 A6
3605 A7 I619 D8
3609 B6
3610 B6
3611 B6
3612 B7
3615 C7
3616 E9
3617 C9
3618 C8
3619 D8
3620 E8
3621 E8
3623 F5
3625 C6
3626 D2
3627 D2
3628 D5
3629 E5
3630 E5
3631 F5
3632 A9
3633 B9
4601 D2
4602 C8
4603 F8
4604 A9
4605 B9
4606 C7
4609 A9
4610 B9
4611 B4
4612 B4
4613 D2
4614 F8
4615 F8
4616 C4
4617 C5
4618 A4
4619 B4
4620 E5
4621 E5
6601 E4
7601-1 A7
7601-2 B7
7602-1 C4
7602-2 C5
7602-3 D5
7602-4 D6
7603 E8
7604 D8
7605 E4
7606-1 E6
7606-2 F6
7607 C7
F601 A4
F602 B4
F603 A6
F604 B6
F605 B6

SSB: DC-DC Converter

B6 DC-DC CONVERTER

B6

B16 FROM TOP CONNECTORS

+12VUNREG — F701 — +12VSW — 2704 10u 16V

+5V — I706 — 2706 10u 16V — 5704

7708 LF33CPT: IN, OUT, CTRL, NC, COM — F710 +3V3STBY

+12VUNREG — 3708 10K — 6708 SS24 — 6709 SS14 — 3709 6K8 — 2708 RES — 2709 47u 16V — I708 — I709 — I710

5709 10u — I711 — 7710 L5973D: VCC, VREF, OUT, FB, COMP, INH, SYNC, NC, GND, GND_HS, NC

2710 10u — 2711 10u — SUP_GND2

I712 — 5712 33u — I713 — 5713 10u — 2716 470u 16V

I714 — I715 — 2715 22n — I716 — 3712 5K6 1% — 3713 3K3 1% — 2713 470u 16V

6712 SS36 — 2714 220p — 3716 4K7

FOR UFD ONLY

FOR LCD ONLY

+3V3STBY — +5VSW1 — +12VSW — 5758 RES — 5755 RES — 5756 — I756 — 7754 SI2301BDS-T1-E3 — 11V5

I757 — 5757 — I749 — I750 — I751 RES — SS = 4V9

3755 10K — 2751 100n — I747 6V8 — 5759 RES — 7753 L4940D2T12: IN, OUT, COM — I759 — PAN_VCC — 5700 — F700 — LVDS_VCC — 11V5

B21 TO EPLD

B8 FROM SCALER

3758 15K — 7755 PDTC114ET — I760 — PANEL-PWR-CTL — F755 (0V) 0V6

3760 100R — 2760 1u0 25V — FOR UFD ONLY

2759 RES — 2752 47u 16V — 2700 RES — 2701 100p

SUPPLY TO SCALER

7752 MC34063AD: DCOL, SWC, SWE, TIMC, IS, VCC, CIN_NEG, GND

+12VSW — 5752 10u — 3751 1R0 — 3752 1R0 — I751 — I752 — 11V7

S Q R — IPK OSC — REFERENCE REGULATOR

3734 2K2 — I755 — I758 — 2756 470p — 5753 220u — 6751 SS14

2753 470u 16V — 3753 1K01% — I753 1V2 — 2754 RES — 3754 3K3 1% — I754 — 2755 4n7

5754 10u — F754 +5VSW1 5V4 — 2757 470u 16V — 2758 470u 16V

B7 TO SCALER CELL — B4 TO LIPSYNC

B2 FROM HERCULES — 3750 22K — 2750 2u2 — 2762 22u 16V — 3V2 — 7758 SI9433BDY-T1-E3 SI4433DY — +3V3SW

3759 1K0 — I748 — 0V — SC_STANDBY — 3V1 — 7756 PDTC114ET

3761 100R — 2761 1u0 25V — FOR UFD ONLY

SUPPLY TO TUNER & HERCULES

7730 L5970D: VCC, COMP, INH, GND, OUT, FB, SYNC, VREF

+12VSW — 5730 10u — I731 — 2730 10u 25V — I705 — 2734 22n — 2733 220p — 3736 4K7

I733 — 5733 220u — 6733 SS14 — 3735 1K0 — I734 — 7735 BC817-25 — I735 — 2735 470p

6735 BAV99 — 2736 22u 35V — 6736 BZX384-C33 — F736 — 32V9 +VTUN — TO TUNER CELL B1

B2 TO HERCULES CELL

7738 L78M08CDT: IN, COM, OUT — +12VSW — 5738 — 2738 47u 16V — 2739 47u 16V

3732 1K0 1% — 3733 3K3 1% — I732 — I736 — 5737 10u — 5735 1m0 — 2731 470u 16V — 2737 470u 16V

5V2 — F737 +5VSW — 8V — F738 +8VSW_TV — F743 POWER_DOWN — B5

+3V3STBY — 3743 22K — 3742 15K — 7742 BC847BW

+12VUNREG — 6740 BZX384-C8V2 — I740 — 3740 1K5 — I741 — 3741 1K5 — 2741 220n — 7741 BC847BW

B7 B16

FOR UFD ONLY

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1751 A10	7738 F2		
2700 B11	7741 G3		
2701 B11	7742 G4		
2704 A3	7752 D9		
2706 B3	7753 B10		
2708 C3	7754 A9		
2709 C3	7755 B8		
2710 C2	7756 G8		
2711 C2	7758 F10		
2713 D5	F700 B11		
2714 D4	F701 A3		
2715 D4	F710 B6		
2716 D6	F736 E6		
2730 E2	F737 F6		
2731 G5	F738 F6		
2733 F2	F743 G6		
2734 E3	F754 E11		
2735 F6	F755 C8		
2736 E6	I705 E3		
2737 G6	I706 B3		
2738 G2	I708 B3		
2739 G3	I709 B3		
2741 G3	I710 C2		
2750 F9	I711 C2		
2751 B9	I712 C4		
2752 B10	I713 C5		
2753 E8	I714 C4		
2754 E8	I715 D4		
2755 F9	I716 D5		
2756 E10	I731 E2		
2757 E11	I732 F4		
2758 E11	I733 E5		
2759 B9	I734 F5		
2760 B9	I735 E5		
2761 G9	I736 F5		
2762 F9	I740 G2		
3708 B2	I741 G3		
3709 C3	I742 G4		
3712 D5	I747 B9		
3713 D5	I748 F8		
3716 D5	I749 A10		
3732 F4	I750 A10		
3733 F4	I751 D8		
3734 D11	I752 E8		
3735 F5	I753 E8		
3736 F3	I754 E9		
3740 G2	I755 D10		
3741 G2	I756 B9		
3742 G3	I757 A9		
3743 G4	I758 D10		
3750 F9	I759 B9		
3751 D8	I760 B8		
3752 D8			
3753 E8			
3754 E9			
3755 B9			
3758 B8			
3759 F8			
3760 B9			
3761 F9			
5700 B11			
5704 B4			
5709 C2			
5712 C4			
5713 C5			
5730 E2			
5733 F5			
5735 F5			
5737 F5			
5738 F1			
5752 D8			
5753 E11			
5754 E11			
5755 A9			
5756 A9			
5757 A9			
5758 A8			
5759 B9			
6708 C2			
6709 C2			
6712 D4			
6733 F5			
6735 E6			
6736 E6			
6740 G2			
6751 E11			
7708 B4			
7710 C3			
7730 E3			
7735 E5			

SSB: Diversity Tables B1-B6

B1 TUNER & IF

Item	AP - non China	Europe	NAFTA/LT	AP - DVB	Europe - DVB	China	Description
1102						V	TUN V+U PLL IEC BGDKM B
1102		V					TUN V+U PLL IEC BGHIL B
1102			V				TUNER UV1338/A F S H-4
1102	V						TUNER UV1316E/A I H-4
1102				V	V		TUNER UV1318SD/A CP H N-4
1104		V			V		FIL SAW SM 38MHZ9 OFWK3953L R
1104						V	FIL SAW SM 38MHZ OFWM3956L R
1104			V				FIL SAW SM 45MHZ75 OFWM1967L R
1104	V			V			FIL SAW SM 38MHZ9 OFWK7265L R
1105						V	FIL SAW SM 38MHZ OFWK3955L R
1106		V			V		FIL SAW SM 38MHZ9 OFWK9656L R
1106						V	FIL SAW SM 38MHZ OFWK9352L R
1106	V			V			FIL SAW SM 38MHZ9 OFWK9361L R
3101	V		V			V	RST SM 0603 100R PM5 COL
3102	V		V			V	RST SM 0603 100R PM5 COL
3104		V			V		RST SM 0603 10K PM5COL
3104	V		V	V		V	RST SM 0603 JUMP. 0R05 COL
3107	V	V		V	V	V	RST SM 0603 6K8 PM5 COL
3108	V	V		V	V	V	RST SM 0603 2K2 PM5 COL
3109	V	V		V	V	V	RST SM 0603 2K2 PM5 COL
3110						V	RST SM 0603 2K2 PM5 COL
3111	V	V		V	V	V	RST SM 0603 22K PM5 COL
3112	V	V		V	V	V	RST SM 0603 18K PM5 COL
3113						V	RST SM 0603 22K PM5 COL
3114						V	RST SM 0603 47K PM5 COL
4102	V	V	V	V	V		RST SM 0603 JUMP. 0R05 COL
4103						V	RST SM 0603 JUMP. 0R05 COL
4104	V			V			RST SM 0603 JUMP. 0R05 COL
4106		V	V		V	V	RST SM 0603 JUMP. 0R05 COL
4107						V	RST SM 0603 JUMP. 0R05 COL
4108						V	RST SM 0603 JUMP. 0R05 COL
4110	V	V		V	V	V	RST SM 0603 JUMP. 0R05 COL
4111		V			V		RST SM 0603 JUMP. 0R05 COL
4113	V			V		V	RST SM 0603 JUMP. 0R05 COL
5101	V	V		V	V	V	FXDIND SM 0805 0U39 PM10 COL R
5101			V				FXDIND SM 0805 0U68 PM10 COL R
5102	V	V	V	V		V	FXDIND SM 0805 12U PM10 COL R
5102					V		FXDIND SM 1008 6U8 PM5 COL R
5107				V	V		FXDIND 0603 100MHZ 600R COL R
5107		V					RST SM 0603 100R PM5 COL
5108				V	V		FXDIND 0603 100MHZ 600R COL R
5108		V					RST SM 0603 100R PM5 COL
6103		V			V		DIO SIG SM BAS316 (COL) R
6105						V	DIO SIG SM 1SS356 (RHM0) R
7101	V	V		V	V	V	TRA SIG SM BC847BW (COL) R
7102						V	TRA SIG SM BC847BW (COL) R

B2 HERCULES

Item	LC4.3A AB (DVB-T)	LC4.3E AB/LC4.8E AB/LC4.9E AB (DVB-T)	LC4.3U/L	LC4.3E/LC4.8E/LC4.9E	LC4.3E W/O 3D COMB FILTER	LC4.3A - CHINA	LC4.3A - AP (non-China)	Description
2203	V	V		V	V	V	V	ELCAP SM 16V 10U PM20 COL R
2229			V					CER2 0805 X5R 6V3 10U PM10 R
2244	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2245	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2246	V	V		V	V			CER2 0402 Y5V 16V 100N COL
2255	V	V	V	V		V	V	CER2 0402 Y5V 16V 100N COL
2286	V	V	V	V		V	V	CER2 0402 Y5V 16V 100N COL
2289	V							CER2 0805 Y5V 10V 4U7 P8020 R
2289				V				RST SM 0603 150R PM5 COL
2290	V	V		V	V			CER2 0805 Y5V 10V 4U7 P8020 R
2291	V	V		V				CER2 0402 Y5V 16V 100N COL
2292		V						CER2 0402 Y5V 16V 100N COL
3250		V		V	V	V	V	RST SM 0402 100R PM5 COL
3251		V		V	V	V	V	RST SM 0402 100R PM5 COL
3252		V		V	V	V	V	RST SM 0402 100R PM5 COL
3253		V		V	V	V	V	RST SM 0402 100R PM5 COL
3255		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3256		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3257		V		V	V	V	V	RST SM 0402 JUMP. 0R05 COL
3258		V		V	V	V	V	RST SM 0402 1K PM5 COL
3259		V		V	V	V	V	RST SM 0402 1K PM5 COL
3260		V		V	V	V	V	RST SM 0402 1K PM5 COL
3270								RST SM 0402 10K PM5 COL
3282		V						RST SM 0603 150R PM5 COL
3285	V	V	V	V		V	V	RST SM 0402 JUMP. 0R05 COL
3286	V	V	V	V		V	V	RST SM 0402 100R PM5 COL
3291	V							RST SM 0402 47K PM5 COL
3292		V		V				RST SM 0402 12K PM5 COL
3292	V							RST SM 0402 47K PM5 COL
3293	V							RST SM 0402 47K PM5 COL
3294	V	V		V				RST SM 0402 47K PM5 COL
3295	V	V		V	V	V	V	RST SM 0402 100K PM5 COL
3296	V	V						RST SM 0402 100R PM5 COL
4206			V		V	V	V	RST SM 0805 JUMP. 0R05 COL R
4213	V	V						RST SM 0402 JUMP. 0R05 COL
4214	V	V						RST SM 0402 JUMP. 0R05 COL
4215	V	V						RST SM 0402 JUMP. 0R05 COL
5218	V	V		V				IND FXD 1206 EMI 100MHZ 120R R
6206	V	V						DIO SIG SM BAT54 SOD323 COL R
7208		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7209		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7210		V		V	V	V	V	TRA SIG SM BC847BW (COL) R
7217			V			V		IC SM TDA15011H/N1BD0 (PHSE) Y
7217	V	V		V	V		V	IC SM TDA15021H/N1B91 (PHSE) Y
7219	V	V		V				IC SM 74HC4053D (PHSE) R

B3 SYNC INTERFACE

Item	26/32PFxxxx - AP/NAFTA/LT	EU & AP DVB sets	LC4.3E/LC4.9x/LC4.8x/LC4.3A-China	26PF4310/10	Description
2449	V	V	V		CER2 0402 Y5V 16V 100N COL
3432		V			RST SM 0402 2K7 PM5 COL
3458	V	V	V		RST SM 0402 100R PM5 COL
3459	V	V	V		RST SM 0402 100R PM5 COL
3461	V	V	V		RST SM 0402 100R PM5 COL
3462	V	V	V		RST SM 0402 100R PM5 COL
4436				V	RST SM 0402 JUMP. 0R05 COL
4437				V	RST SM 0402 JUMP. 0R05 COL
4440	V	V	V		RST SM 0402 JUMP. 0R05 COL
4441	V	V	V		RST SM 0402 JUMP. 0R05 COL
6430	V		V	V	DIO REG SM PDZ2.4B (PHSE) R
6431	V		V	V	DIO SIG SM 1N4148WS (VISH) R
7436	V	V	V		IC SM 74LVC14APW (PHSE) R

B5 AUDIO WITHOUT AMPLIFIER

Item	26/32PF	37/42/50PF	Description
2612		V	CER2 0603 Y5V 10V 1U COL
2613	V		CER2 0603 Y5V 10V 1U COL
2616	V		CER2 0603 X5R 6V3 2U2 PM10 R
2617	V		CER2 0603 X5R 6V3 2U2 PM10 R
3615	V		RST SM 0402 10K PM5 COL
3616		V	RST SM 0402 1K PM5 COL
3617		V	RST SM 0402 1K PM5 COL
3618	V		RST SM 0402 22K PM5 COL
3619		V	RST SM 0402 10K PM5 COL
3620		V	RST SM 0402 10K PM5 COL
3623	V		RST SM 0402 47K PM5 COL
3625	V		RST SM 0402 3K3 PM5 COL
3627	V		RST SM 0402 22K PM5 COL
3628		V	RST SM 0402 10K PM5 COL
3629		V	RST SM 0402 22K PM5 COL
3630	V		RST SM 0402 330R PM5 COL
3630		V	RST SM 0402 470R PM5 COL
3631	V		RST SM 0402 330R PM5 COL
3631		V	RST SM 0402 470R PM5 COL
3632		V	RST SM 0402 RC31 39R PM5 R
3633		V	RST SM 0402 RC31 39R PM5 R
4601		V	RST SM 0603 JUMP. 0R05 COL
4602	V		RST SM 0603 JUMP. 0R05 COL
4603	V		RST SM 0603 JUMP. 0R05 COL
4606		V	RST SM 0603 JUMP. 0R05 COL
4609	V		RST SM 0603 JUMP. 0R05 COL
4610	V		RST SM 0603 JUMP. 0R05 COL
4611	V		RST SM 0603 JUMP. 0R05 COL
4612	V		RST SM 0603 JUMP. 0R05 COL
4613	V		RST SM 0603 JUMP. 0R05 COL
4614		V	RST SM 0603 JUMP. 0R05 COL
4615		V	RST SM 0603 JUMP. 0R05 COL
4616	V		RST SM 0603 JUMP. 0R05 COL
4617		V	RST SM 0603 JUMP. 0R05 COL
4618		V	RST SM 0603 JUMP. 0R05 COL
4619		V	RST SM 0603 JUMP. 0R05 COL
4620	V		RST SM 0603 JUMP. 0R05 COL
4621		V	RST SM 0603 JUMP. 0R05 COL
7603		V	TRA SIG SM BC847BW (COL) R
7604		V	TRA SIG SM BC847BW (COL) R
7607	V		TRA SIG SM BC847BW (COL) R

B6 DC DC CONVERTER

Item	26/32PF LCD	37/42PF LCD	42/50PF PDP	DVB PDP 42PF	DVB LCD 37PF	Description
2701	V	V			V	CER1 0402 NP0 50V 100P COL
2706		V	V	V	V	ELCAP SM 16V 10U PM20 COL R
2709		V	V	V	V	ELCAP SM 16V 47U PM20 COL R
2710		V	V	V	V	CER2 1210 Y5V 25V 10U P8020 R
2711		V	V	V	V	CER2 1210 Y5V 25V 10U P8020 R
2713		V	V	V	V	ELCAP SM SEV 16V 470U PM20 R
2714		V	V	V	V	CER2 0402 X7R 50V 220P COL
2715		V	V	V	V	CER2 0402 X7R 16V 22N PM10 R
2741		V	V	V	V	CER2 0603 X7R 10V 220N COL
2751	V	V			V	CER2 0402 Y5V 16V 100N COL
2752	V	V			V	ELCAP SM 16V 47U PM20 COL R
2760	V	V			V	CER2 1206 X7R 25V 1U PM10 R
2761		V	V	V	V	CER2 1206 X7R 25V 1U PM10 R
3708		V	V	V	V	RST SM 0402 10K PM5 COL
3709		V	V	V	V	RST SM 0402 6K8 PM5 COL
3712		V	V	V	V	RST SM 0603 RC22H 5K6 PM1 R
3713		V	V	V	V	RST SM 0603 RC22H 3K3 PM1 R
3716		V	V	V	V	RST SM 0402 4K7 PM5 COL
3740		V	V	V	V	RST SM 0402 1K5 PM5 COL
3741		V	V	V	V	RST SM 0402 1K5 PM5 COL
3742		V	V	V	V	RST SM 0402 15K PM5 COL
3743		V	V	V	V	RST SM 0402 22K PM5 COL
3755	V	V			V	RST SM 0402 10K PM5 COL
3758	V	V			V	RST SM 0402 15K PM5 COL
3760	V	V			V	RST SM 0402 100R PM5 COL
3761		V	V	V	V	RST SM 0402 100R PM5 COL
5700	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
5704		V	V	V	V	IND FXD SM 1206 10U PM20 R
5709		V	V	V	V	IND FXD SM 7032 10U PM20 R
5712		V	V	V	V	IND FXD SM 12565 33U PM20 R
5713		V	V	V	V	INDFXD SM 10145 10U PM20 R
5756	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
5757	V	V			V	IND FXD 1206 EMI 100MHZ 120R R
6708		V	V	V	V	DIO REC SS24 COL R
6709		V	V	V	V	DIO REC SS14 COL R
6712		V	V	V	V	DIO REC SS36 COL R
6740		V	V	V	V	DIO REG SM PDZ8.2B (PHSE) R
7708		V	V	V	V	IC SM LF33CPT (ST00) R
7710		V	V	V	V	IC SM E-L5973D (ST00) R
7741		V	V	V	V	TRA SIG SM BC847BW (COL) R
7742		V	V	V	V	TRA SIG SM BC847BW (COL) R
7754	V	V			V	FET POW SM SI2301BDS-E3(VISH)R
7755	V	V			V	TRA SIG SM PDTC114ET (COL) R

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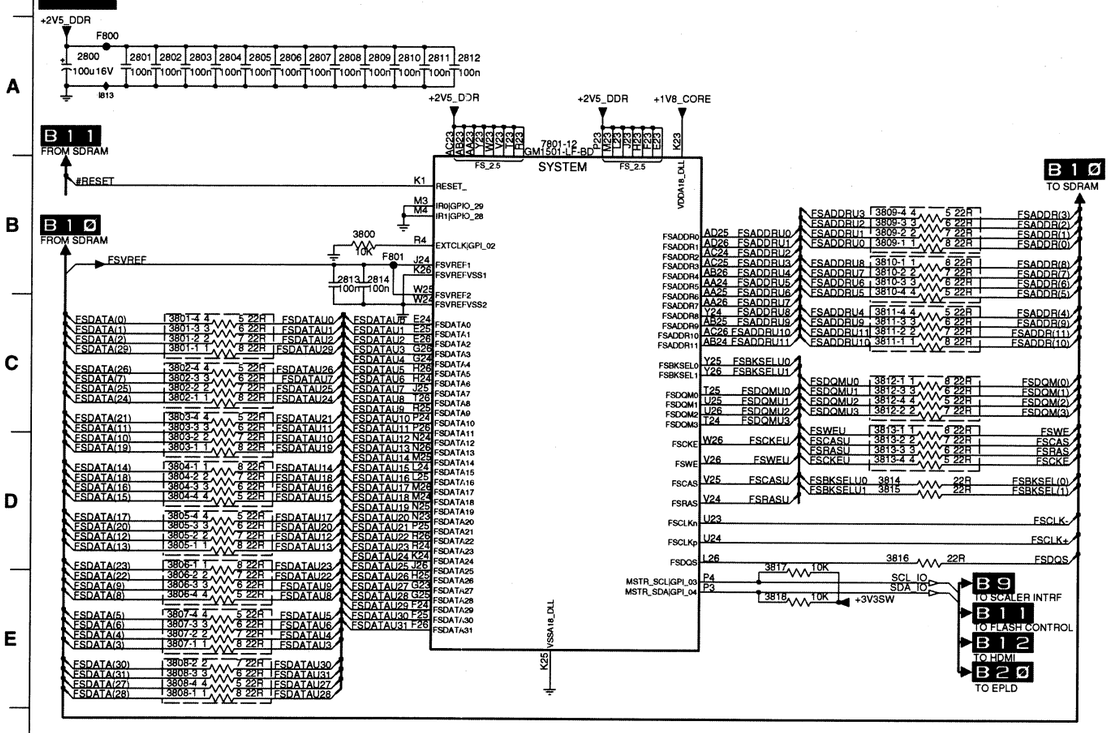
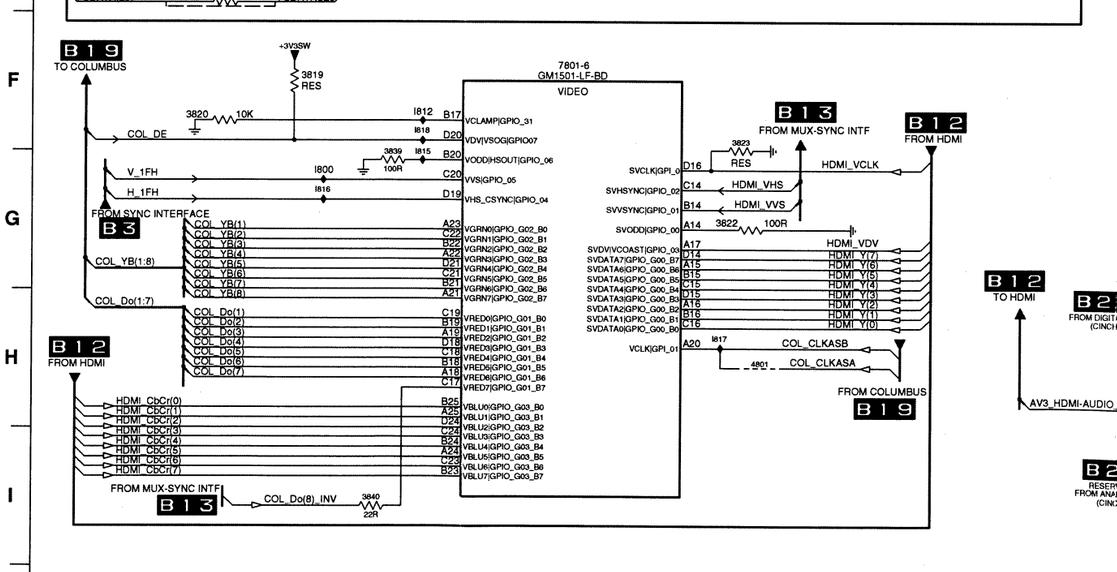
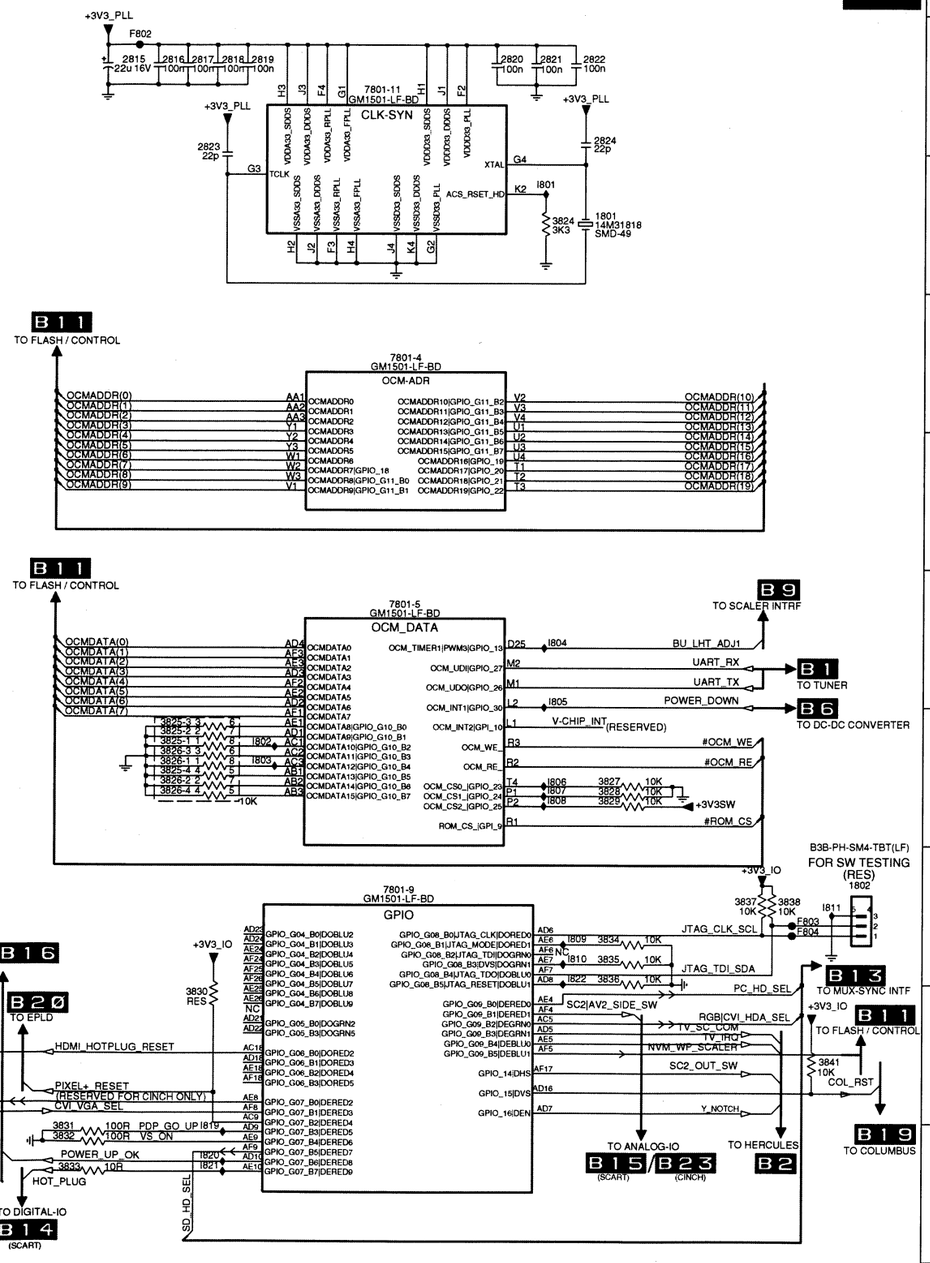
SSB: Scaler

B7 SCALER







SSB: Scaler Supply

B8 SCALER

B8

SUPPLY FOR SCALER

+3V3SW
5900 → +3V3_PLL
5901 → +3V3_ADC
5902 → +3V3_DVI
5903 → +3V3_IO
5904 F900 → +3V3_LBADC
5905 → +3V3_LVDSA
5906 → +3V3_LVDSB
5907 → +3V3_LVDS

+3V3SW — 7900 LF25CDT (IN, OUT, COM) — I900 — 5908 → +2V5_DDR
2900 100n; 2901 1n0; + 2902 470u 16V

+3V3SW — 7901 LD1086D2T18 (IN, OUT, COM) — I901 — I902 +1V8
5909 → +1V8_ADC
5910 → +1V8_DVI
5911 → +1V8_CORE
2903 100n; + 2904 47u 16V

+3V3_IO — F901 — 2905 100u 16V; 2906–2916 100n
+1V8_CORE — F902 — 2917 100u 16V; 2918–2929 100n

+3V3_IO: AC10 AC8 AC6 AC4 AB4 AA4 Y4 W4 D23 M23 D17
+1V8_CORE: U17 U16 U11 T17 T16 T11 L16 L11 K17 K16 K11 K10

7801-13 GM1501-LF-BD SUPPLY
IO_3.3 | CORE_1.8

D_GND: A13 B13 K12 K13 K14 K15 L10 L12 L13 L14 L15 L17 M10 M11 M12 M13 M14 M15 M16 M17 N10 N11 N12 N13 N14 N15 N17 P10 P11 P12 P13 P14 P15 P16 P17 R10 R11 R12 R13 R14 R15 R16 R17 T10 T12 T13 T14 T15 U12 U13 U14 U15 AD15
I905

7801-14 GM1501-LF-BD
NC: A1 AC17; C5 K3; D5 F1

+3V3_LBADC — 2940 47u 16V; 2941 100n
7801-3 GM1501-LF-BD ADC (LBADC_33)
KEYBOARD 4900 RES
C12 LBADC_IN1
(RES) B12 LBADC_IN2
(RES) A12 LBADC_IN3
D12 LBADC_RETURN
C13 LBADC_33
D13 LBADC_GND
2942 100n

F903 — 2930 2931 2932 2933 100n — +1V8_DVI — D6 D8 D9 D10 — DVI_1.8
F904 — 2934 47u 16V; 2935 2936 2937 2938 2939 100n — +3V3_DVI — C11 C10 C9 C8 C6 — DVI_3.3

B14 TO DIGITAL-IO (SCART ONLY)

7801-2 GM1501-LF-BD DVI
SCL_DVI N4; SDA_DVI N3
RXC+IN A6; RXC-IN B6 → RXCp RXCn
RX0+IN A8; RX0-IN B8 → RX0p RX0n
RX1+IN A9; RX1-IN B9 → RX1p RX1n
RX2+IN A10; RX2-IN B10 → RX2p RX2n
B11 REXT
DVI_GND: A7 A11 B5 B7 C7 D7 D11
I906

7801-10 GM1501-LF-BD DISPLAY PWR
LVDSA_GND_1 AD19; LVDSA_GND_2 AC19; LVDSA_GND_3 AC20
LVDSB_GND_1 AC13; LVDSB_GND_2 AC14; LVDSB_GND_3 AC15
VSSD33_LVDS AD17
VDDD33_LVDS AE17
LVDSA_3.3_3 AC22; LVDSA_3.3_2 AC21; LVDSA_3.3_1 AD20
LVDSB_3.3_3 AC12; LVDSB_3.3_2 AD13; LVDSB_3.3_1 AD12
F905 +3V3_LVDS; F906 +3V3_LVDSA; F907 +3V3_LVDSB
+3V3_LVDSA: + 2945 22u 16V; 2946 2947 2948 100n; 2949 100n
+3V3_LVDSB: + 2950 22u 16V; 2951 2952 100n

B13 TO MUX-SYNC INTERFACE
B18 ADC
B19 & B2 TO COLUMBUS / HERCULES
B16 TO TOP CONN.

+3V3STBY — 3901 RES; 3902 RES; 2953 2954 100n — F908 +1V8_ADC — A4 A3
+3V3_ADC — F909 — 2955 22u 16V; 2956 2957 2958 2959 100n — B3 E3 D3 A2

7801-1 GM1501-LF-BD ANA-IN
ADC_1.8 | ADC_3.3
AVSYNC L3; AHSYNC L4
SCL N2; SDA N1 (3903 100R; 3904 100R) → VGA_SCL|GPI_05 VGA_SDA|GPI_06
SOG C3
R_PR+ D2; R_PR- D1 → REDp REDn
G_Y+ C2; G_Y- C1 → GREENp GREENn
B_PB+ B2; B_PB- B1 → BLUEp BLUEn
ADC_AGND: C4 D4 E1 E2 E4
ADC_DGND: A5 B4
F910

7801-7 GM1501-LF-BD CTRL
FROM DC-DC CONVERTER B6
3900 3K3 I904 AC16 OEXTR
FAN_SPEED C26 ← PWM0|GPIO_10
HD_FILTER C25 ← PWM1|GPIO_11
PPWR|GPIO_08 A26 → PANEL-PWR-CTL
PBIAS|GPIO_09 B26 → LAMP_ON_OFF
DCLK|GPIO_17 AC7 NC
PWM2|GPIO_12 D26 I903 BU_LHT_ADJ2 (RES)

2900 D1 F906 D10
2901 D2 F907 D10
2902 D2 F908 E9
2903 E1 F909 E10
2904 E2 F910 G9
2905 A4 I900 C2
2906 A4 I901 E1
2907 A4 I902 E2
2908 A4 I903 G6
2909 A4 I904 F4
2910 A5 I905 C4
2911 A5 I906 E6
2912 A5
2913 A5
2914 A6
2915 A6
2916 A6
2917 A7
2918 A7
2919 A7
2920 A7
2921 A7
2922 A8
2923 A8
2924 A8
2925 A8
2926 A9
2927 A9
2928 A9
2929 A9
2930 C5
2931 C5
2932 C5
2933 C5
2934 C7
2935 C7
2936 C7
2937 C8
2938 C8
2939 C8
2940 B9
2941 B10
2942 C9
2945 D10
2946 D11
2947 D11
2948 D11
2949 D11
2950 D10
2951 D11
2952 D11
2953 E8
2954 E8
2955 E10
2956 E10
2957 E10
2958 E11
2959 E11
3900 F4
3901 E8
3902 E8
3903 F8
3904 F8
4900 B9
5900 A1
5901 B1
5902 B1
5903 B1
5904 B1
5905 C1
5906 C1
5907 C1
5908 C2
5909 D2
5910 E2
5911 E2
7801-1 F9
7801-10 C9
7801-13 B6
7801-14 A10
7801-2 C6
7801-3 B10
7801-7 F5
7900 C1
7901 D1
F900 B2
F901 A4
F902 A7
F903 C5
F904 C7
F905 D10

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SSB: Scaler Interface

B9 SCALER INTERFACE

7801-8
GM1501-LF-BD

ACp|GPIO_G06_B6|DORED8 AE20
ACn|GPIO_G06_B7|DORED9 AF20
A3p|GPIO_G06_B4|DORED6 AE19
A3n|GPIO_G06_B5|DORED7 AF19
A2p|GPIO_G05_B1|DOGRN3 AE21
A2n|GPIO_G05_B2|DOGRN4 AF21
A1p|GPIO_G05_B4|DOGRN6 AE22
A1n|GPIO_G05_B5|DOGRN7 AF22
A0p|GPIO_G05_B6|DOGRN8 AE23
A0n|GPIO_G05_B7|DOGRN9 AF23
NC
SHIELD5|DEBLU5 AD14
SHIELD4|DEBLU2 AE13
SHIELD3|DEGRN5 AE11
SHIELD2|DEGRN4 AD11
SHIELD1|DEGRN3 AC11
SHIELD0|DEGRN2 AF10
BCp|DEGRN8 AE12
BCn|DEGRN9 AF13
B3p|DEGRN6 AF11
B3n|DEGRN7 AF12
B2p|DEBLU3 AF14
B2n|DEBLU4 AE14
B1p|DEBLU6 AF15
B1n|DEB_U7 AE15
B0p|DEBLU8 AF16
B0n|DEBLU9 AE16
LVDS

TXBC+ TXBC-
TXB3+ TXB3-
TXB2+ TXB2-
TXB1+ TXB1-
TXB0+ TXB0-

B20 TO EPLD

B7 TO SCALER

BU_LHT_ADJ1
3A02 1K0

RESERVED
IA07
4A02 RES
IA05
BACKLIGHT_DIM
B20 FROM EPLD

RES +5VSWI
3A03 RES
3A05 RES
7A01 SI2301DS-T1
3A04 1K0
IA06
3A06 10K
IA00
2A03 1u0
BACKLIGHT_CTRL
B16 TO TOP CONNECTORS
4A03

BACKLIGHT CONTROL	5V DC	5V PWM	3V3 DC	3V3 PWM
3A03	390R	390R	-	-
3A05	-	-	-	-
3A04	1K	1K	-	-
7A01	Y	Y	-	-
4A03	-	-	Y	Y
3A06	10K	0R	10K	0R
2A03	1u	-	1u	-

FOR PDP ONLY

+3V3SW
3A07 10K
3A08 10K
2A00 100n
5A00
7A00 PCA9515ADP
VCC
SDA1 SDA0
SCL1 SCL0
EN
NC NC GND
B21 TO EPLD
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
3A00 68R
3A01 68R
IA08
IA09
SDA_IO
SCL_IO
4A04 (PDP)
BUF_ENABLE
2A01 100p
2A02 100p
4A00 RES
4A01 RES

FOR UFD ONLY

+3V3STBY
2A13 100n
3A13 10K
3A11 4K7
+5V
3A14 4K7
7A03 BC847BW
B2 FROM HERCULES
SC_STANDBY
7A02 BC847BW
3A10 10K
IA03
2A12 10n
6A01 BZX384-C3V9
STANDBY
4A05
4A06

2A00 E3
2A01 F2
2A02 F2
2A03 C7
2A12 F6
2A13 E8
3A00 E2
3A01 E2
3A02 C5
3A03 C6
3A04 C6
3A05 C6
3A06 C7
3A07 E2
3A08 E2
3A10 F6
3A11 E7
3A13 E8
3A14 E9
4A00 F3
4A01 F3
4A02 B6
4A03 D6
4A04 F4
4A05 F6
4A06 F8
5A00 E3
6A01 F8
7801-8 A2
7A00 E4
7A01 C6
7A02 F6
7A03 E8
IA00 C7
IA03 F6
IA05 B8
IA06 C7
IA07 B6
IA08 E3
IA09 E3

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SSB: SDRAM

B10 SDRAM

+2V5_DDR

2B01 47u 16V | 2B02 47u 6.3V | 2B03 100n | 2B04 100n | 2B05 100n | 2B06 100n | 2B07 100n | 2B08 100n | 2B09 100n | 2B10 100n | 2B11 100n | 2B12 100n | 2B13 100n | 2B14 100n | 2B15 100n | 2B16 100n

B 7 TO/FROM SCALER

+2V5_DDR

3B01 10K 1%

FSVREF

FB01

3B02 10K 1%

2B18 16V 22u

2B17 100n

+2V5_DDR

7B01 K4D263238F-UC50

VREF VDD Φ VDDQ

SDRAM 1M X 32 X 4

FSRAS → CS
FSCAS → RAS
FSWE → CAS
WE
NC

3B03 150R 1%

FSCLK+ (IB03) → CK
FSCLK- (IB02) → CK
FSCKE → CKE

FSDQM(0..3) → DM

FSBKSEL(0..1) → BA

FSADDR(0..11) → A

NC

RFU
MCL

VSS VSSQ DQS → FSDQS

B 7 TO/FROM SCALER

FSDATA(0..31)

2B01 A1
2B02 A1
2B03 A1
2B04 A1
2B05 A2
2B06 A2
2B07 A2
2B08 A3
2B09 A3
2B10 A3
2B11 A3
2B12 A4
2B13 A4
2B14 A4
2B15 A5
2B16 A5
2B17 B4
2B18 B4
3B01 B3
3B02 B3
3B03 C2
7B01 C3
FB01 B3
IB02 C2
IB03 C2

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140405

3139 123 6093.1

SSB: Flash / Control

B11 FLASH / CONTROL

B11

B 7 TO SCALER

+3V3_IO

5C00

FC00

2C00 100n

2C01 10u 16V

7C00 M29W040B-55K1

ROM 512Kx8 [FLASH]

OCMADDR(0) 12
OCMADDR(1) 11
OCMADDR(2) 10
OCMADDR(3) 9
OCMADDR(4) 8
OCMADDR(5) 7
OCMADDR(6) 6
OCMADDR(7) 5
OCMADDR(8) 27
OCMADDR(9) 26
OCMADDR(10) 23
OCMADDR(11) 25
OCMADDR(12) 4
OCMADDR(13) 28
OCMADDR(14) 29
OCMADDR(15) 3
OCMADDR(16) 2
OCMADDR(17) 30
OCMADDR(18) 1

A 0 512K-1

DQ 0..7

OCMDATA(0) 13
OCMDATA(1) 14
OCMDATA(2) 15
OCMDATA(3) 17
OCMDATA(4) 18
OCMDATA(5) 19
OCMDATA(6) 20
OCMDATA(7) 21

#OCM_RE 24 OE
#OCM_WE 31 WE
#ROM_CS 22 CE

32 16

B 7 TO SCALER

OCMADDR(0:19)

OCMDATA(0:7)

+3V3_IO

3C04-1 3C04-2 3C04-3 3C04-4 10K

3C05 10K

3C06-1 3C06-2 3C06-3 3C06-4 10K

3C07-1 3C07-2 3C07-3 3C07-4 10K

3C08-1 3C08-2 3C08-3 3C08-4 10K

3C09-1 3C09-2 3C09-3 3C09-4 10K

3C10-1 3C10-2 3C10-3 3C10-4 10K

3C11 RES
3C12 RES
3C13 RES
3C14 RES
3C15 RES

+3V3_IO

3C16-1 3C16-2 3C16-3 3C16-4 10K

3C17 10K

3C18 10K

FC09 FC10 FC08 FC07 FC06

3C19 RES 3C20 RES 3C21 RES

+3V3SW +3V3SW

3C00 10K

2C02 100n

3V2

7C01 M24C32-WMN6

Φ (4Kx8) EEPROM

NVM_WP_SCALER 0V FC01 7 WC
SCL_IO 3V2 FC02 6 SCL
SDA_IO 3V2 FC03 5 SDA

ADR 0 1 2 3

4

+3V3SW

3V2

2C03 100n

1C00 SKQR

For Software Development only - (RES)

FC04

3C01 10K

7C02 PST596J

MR VCC SUB GND VOUT

FC05 3V2

3C02 1K0

3C03 RES

#RESET

B7 & B12 TO SCALER TO HDMI

& B19 TO COLUMBUS

3139 123 6093.1

F_15430_011.eps 140405

1C00 E4
2C00 A3
2C01 A3
2C02 E2
2C03 E5
3C00 E2
3C01 E5
3C02 E6
3C03 E6
3C04-1 A6
3C04-2 A6
3C04-3 A6
3C04-4 A6
3C05 A6
3C06-1 B5
3C06-2 B5
3C06-3 B5
3C06-4 B5
3C07-1 B5
3C07-2 B5
3C07-3 B5
3C07-4 B5
3C08-1 B5
3C08-2 B5
3C08-3 C5
3C08-4 C5
3C09-1 C5
3C09-2 C5
3C09-3 C5
3C09-4 C5
3C10-1 C5
3C10-2 C5
3C10-3 C5
3C10-4 C5
3C11 A6
3C12 A6
3C13 A6
3C14 B6
3C15 B6
3C16-1 B7
3C16-2 B7
3C16-3 B6
3C16-4 B6
3C17 B6
3C18 B7
3C19 C6
3C20 C7
3C21 C7
5C00 A3
7C00 A2
7C01 E3
7C02 E5
FC00 A3
FC01 E2
FC02 E2
FC03 E2
FC04 E4
FC05 E6
FC06 C6
FC07 C6
FC08 C7
FC09 B7
FC10 B7

SSB: HDMI (N.A.)

B12 HDMI (NOT APPLICABLE IN EUROPE SET)

B12

B7 FROM SCALER

B7 TO SCALER

B22 FROM DIGITAL-IO (CINCH ONLY)

B22 TO DIGITAL-IO (CINCH ONLY)

B11 FROM FLASH/CONTROL

B13 TO MUX-SYNC INTF

B2 TO HERCULES

B7 FROM SCALER

SCL_IO, SDA_IO

7D00 M24C02-WMN6 (256x8) EEPROM

DOC_SDA, DOC_SCL, +5VHDMI

#RESET

PLLIN, COMP

H_HDMI, V_HDMI

7D03 SII9993CTG100 HDMI PANELLINK RECEIVER

RXC-, RXC+, RX0-, RX0+, RX1-, RX1+, RX2-, RX2+

7D01 BSN20, 7D02 BSN20

7D04 UDA1334BT/N2

DIGITAL INTERFACE, DE-EMPHASIS, INTERPOLATION FILTER, NOISE SHAPER, DAC, AUDIO DAC

7D05 HEF4053B

FOR SET W/O HDMI

29SPDIF (NC)

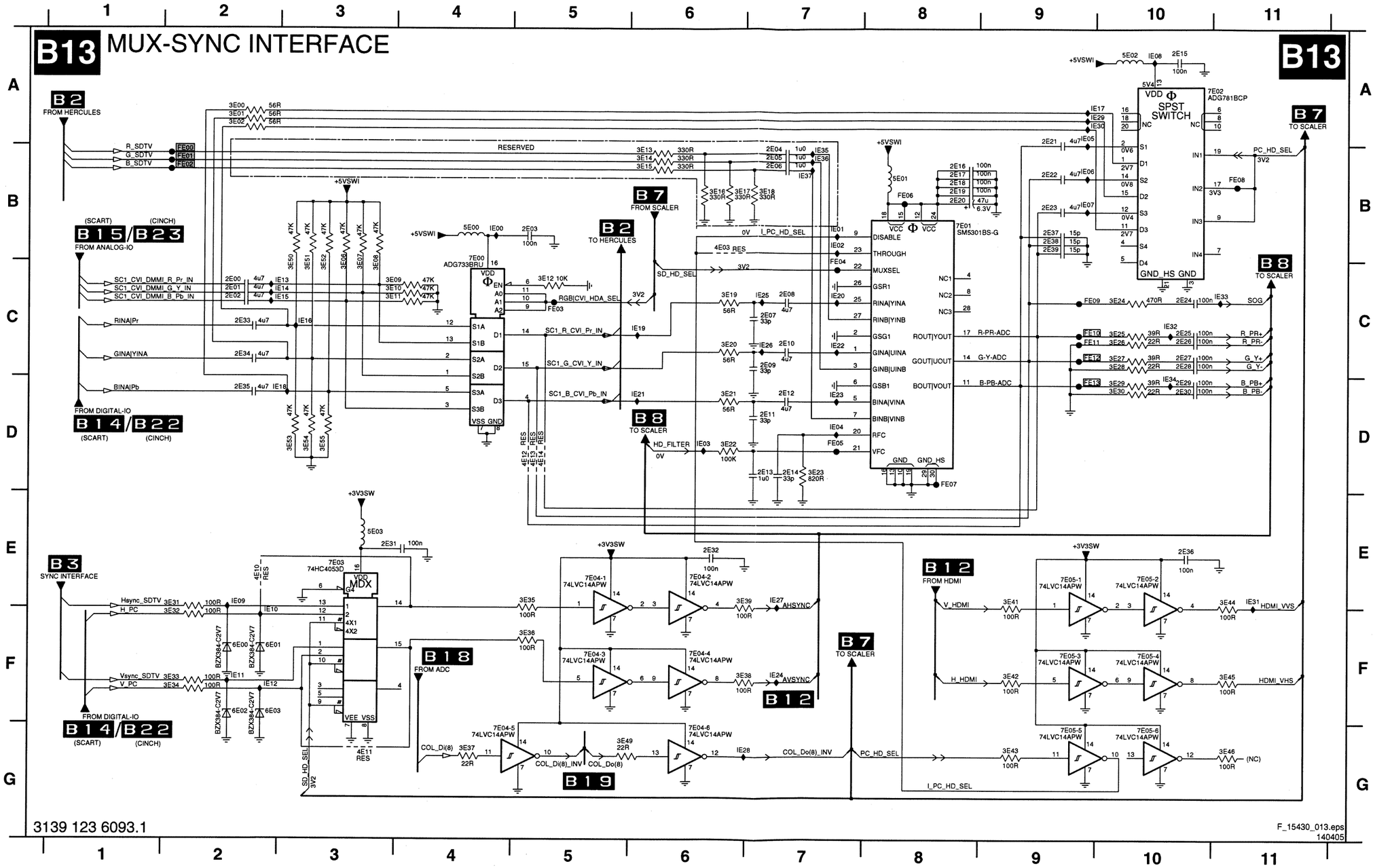
HDMI_Y(0:7), HDMI_CbCr(0:7), HDMI_VDV, HDMI_VCLK

AV3_LEFT, AV3_HDMI-AUDIO_SEL, AV3_RIGHT, AudioIN2R, AudioIN2L

+3V3SW, +5VHDMI, PLLIN, COMP, AVCC, VCC, PVCC1, PVCC2, DACVCC, DACVCC2, DACVCC3, DACVCC4, OVCC1, AGND, GND, PGND, DACGND1R, DACGND1G, DACGND1B, OGND, GND_HS

SSB: MUX Sync Interface

B13 MUX-SYNC INTERFACE



2E00 C2	3E50 C3	IE34 D10
2E01 C2	3E51 C3	IE35 B7
2E02 C2	3E52 C3	IE36 B7
2E03 B5	3E53 D3	IE37 B7
2E04 B7	3E54 D3	
2E05 B7	3E55 D3	
2E06 B7	4E03 B6	
2E07 C7	4E10 E2	
2E08 C7	4E11 G3	
2E09 C7	4E12 D5	
2E10 C7	4E13 D5	
2E11 D7	4E14 D5	
2E12 D7	5E00 B4	
2E13 D7	5E01 B8	
2E14 D7	5E02 A10	
2E15 A10	5E03 E3	
2E16 B8	6E00 F2	
2E17 B8	6E01 F2	
2E18 B8	6E02 F2	
2E19 B8	6E03 F2	
2E20 B8	7E00 B4	
2E21 A9	7E01 B8	
2E22 B9	7E02 A10	
2E23 B9	7E03 E3	
2E24 C10	7E04-1 E5	
2E25 C10	7E04-2 E6	
2E26 C10	7E04-3 F5	
2E27 C10	7E04-4 F6	
2E28 C10	7E04-5 G5	
2E29 D10	7E04-6 G6	
2E30 D10	7E05-1 E9	
2E31 E3	7E05-2 E10	
2E32 E6	7E05-3 F9	
2E33 C2	7E05-4 F10	
2E34 C2	7E05-5 G9	
2E35 D2	7E05-6 G10	
2E36 E10	FE00 B2	
2E37 B9	FE01 B2	
2E38 B9	FE02 B2	
2E39 B9	FE03 C5	
3E00 A2	FE04 C7	
3E01 A2	FE05 D7	
3E02 A2	FE06 B8	
3E06 C3	FE07 D8	
3E07 C3	FE08 B11	
3E08 C3	FE09 C9	
3E09 C3	FE10 C9	
3E10 C3	FE11 C9	
3E11 C3	FE12 C9	
3E12 C5	FE13 D9	
3E13 B6	IE00 B4	
3E14 B6	IE01 B7	
3E15 B6	IE02 B7	
3E16 B6	IE03 D6	
3E17 B6	IE04 D7	
3E18 B7	IE05 A9	
3E19 C6	IE06 B9	
3E20 C6	IE07 B9	
3E21 D6	IE08 A10	
3E22 D6	IE09 E2	
3E23 D7	IE10 F2	
3E24 C10	IE11 F2	
3E25 C10	IE12 F2	
3E26 C10	IE13 C3	
3E27 C10	IE14 C3	
3E28 C10	IE15 C3	
3E29 D10	IE16 C3	
3E30 D10	IE17 A10	
3E31 E2	IE18 D2	
3E32 F2	IE19 C6	
3E33 F2	IE20 C7	
3E34 F2	IE21 D6	
3E35 E5	IE22 C7	
3E36 F5	IE23 D7	
3E37 G4	IE24 F7	
3E38 F6	IE25 C7	
3E39 E6	IE26 C7	
3E41 E9	IE27 E7	
3E42 F9	IE28 G6	
3E43 G9	IE29 A10	
3E44 E11	IE30 A10	
3E45 F11	IE31 E11	
3E46 G11	IE32 C10	
3E49 G5	IE33 C11	

SSB: Digital I/O

B14 DIGITAL IO

B14

B13 TO MUX-SYNC INTERFACE

RGB/COMPONENT VIDEO INPUT
1F00-4 YKF45-7005
IF12, IF13, IF14, IF15
5F00, 5F01, 5F02
2F00 RES, 3F00 75R
2F02 RES, 3F09 75R, 2F04 100p
2F05 RES, 3F11 75R
3F10 1R0
IF11 RINA|Pr
IF17 GINA|YINA
H_PC
IF20 BINA|Pb
V_PC

PC AUDIO IN
1F01
IF05, IF04
S001, S002
YKB21-5101A
3F25 10K, 3F24 10K
IF23, IF22
2F16 2u2, 2F15 2u2
AudioIN2L, AudioIN2R
2F13 180p, 3F26 15K
2F14 180p, 3F27 15K

B2 To HERCULES

DDC_5V
2F07 100n
7F03 M24C02-WMN6
(256x8) EEPROM
WC, SCL, SDA, ADR
IF00
3F16 10K, 3F17 10K, 3F18 10K

B8 TO SCALER

SCL_DVI
SDA_DVI

DVI INPUT
ROW_A 1F00-1
ROW_B 1F00-2
ROW_C 1F00-3
YKF45-7005
FF00, FF01, FF02, FF03, FF04, FF05, FF06, FF07, FF08, FF10, FF11, FF12, FF13
3F28 100R, 3F29 100R
3F19 1R0
2F08 330p, 2F09 330p, 2F10 100p
RX2-IN, RX2+IN
RX1-IN, RX1+IN
RX0-IN, RX0+IN
RXC+IN, RXC-IN

DVI CONNECTOR

DVI_5V
3F20 100R, 3F21 1K0
IF01, IF06, IF07, IF08
2F11 330p, 2F12 330p
BAS316 6F00, +5VSWI
6F01 BAS316
3F22 10K, 3F23 1K0
5F03, IF03, IF02, IF21
HOT_PLUG

B7 TO SCALER

3139 123 6093.1

F_15430_014.eps
140405

1F00-1 D1
1F00-2 E1
1F00-3 F1
1F00-4 B1
1F01 A7
2F00 A2
2F02 B2
2F04 B3
2F05 C2
2F07 C3
2F08 E2
2F09 E2
2F10 E3
2F11 F2
2F12 F2
2F13 B9
2F14 B9
2F15 B9
2F16 B9
3F00 A2
3F09 B2
3F10 B3
3F11 C2
3F16 D4
3F17 D4
3F18 D4
3F19 E2
3F20 F2
3F21 F2
3F22 F3
3F23 F3
3F24 B8
3F25 B8
3F26 B9
3F27 B9
3F28 E2
3F29 E2
5F00 A3
5F01 B3
5F02 C3
5F03 F4
6F00 F4
6F01 F3
7F03 D2
FF00 D1
FF01 E1
FF02 E1
FF03 E1
FF04 E1
FF05 E1
FF06 E1
FF07 F1
FF08 F1
FF09 F1
FF10 F1
FF11 G1
FF12 G1
FF13 G1
IF00 D3
IF01 F2
IF02 F4
IF03 F5
IF04 B8
IF05 B8
IF06 F1
IF07 F1
IF08 G1
IF11 A6
IF12 B1
IF13 B1
IF14 B2
IF15 B2
IF17 B6
IF20 C6
IF21 F5
IF22 B9
IF23 B9
S001 B8
S002 B8

SSB: Analog I/O

B15 SCART ANALOGUE IO

B15

SCART 1

HR-AR0761S-2

SCART 2

HR-AR0761S-2

RESERVED FOR DMMI

RESERVED FOR DMMI

DMMI CONNECTOR

AF732L-N2G1A

TO HERCULES B2

FROM SIDE CONNECTOR B17

FROM SCALER B7

TO MUX-SYNC INTF B13

TO HERCULES B2

TO HERCULES B2

3139 123 6093.1

F_15430_015.eps
140405

1G01-1 A1	3G95 I9	IG55 C11
1G01-2 E1	3G96 I9	IG56 D10
1G02-1 F1	3G99 I8	IG57 B13
1G02-2 J1	3S00 J9	IG58 B13
1G03 G15	3S01 G9	IG59 D14
2G01 A3	3S03 J8	IG60 E11
2G02 A2	4G00 A3	IG61 F11
2G03 B3	4G01 B3	IG62 F11
2G04 B3	4G05 G3	IG63 F11
2G05 A3	4G06 G3	IG64 E12
2G06 B3	4G09 B11	IG67 F12
2G07 A4	4G10 B11	IG69 F12
2G08 A4	4G11 D12	IG73 I8
2G09 B3	4G12 D12	IG75 I9
2G10 B3	4G13 D12	IG76 J6
2G11 B4	4G14 E9	IG78 J9
2G12 B4	4G15 F9	IG79 K9
2G16 E4	4G16 G11	IG80 I10
2G17 E5	4G17 G11	S011 A2
2G18 G4	4G18 J5	S012 B2
2G19 G4	4G19 H9	S013 B2
2G20 G5	4G20 K9	S014 B2
2G21 G4	4G21 I9	S015 C2
2G22 H4	4G22 K10	S016 C2
2G23 H4	4G26 E4	S017 C3
2G24 G5	5G00 E4	S018 C2
2G25 H4	5G01 D10	S019 D2
2G26 I5	5G02 I11	S020 E2
2G28 J4	6G00 F3	S021 E2
2G29 B11	6G01 K3	S022 E2
2G30 B11	6G02 B13	S023 F2
2G31 C11	6G03 B2	S024 G3
2G32 C11	6G04 C2	S025 G3
2G33 C13	6G05 A2	S026 H3
2G34 D11	6G06 B2	S027 H2
2G35 D11	6G07 F2	S028 G2
2G36 F9	6G08 F2	S029 H2
2G37 F9	6G09 G2	S030 H2
2G38 F12	6G10 G2	S031 H2
2G39 E13	7G03 E4	S032 I2
2G40 E13	7G05 J4	S033 I2
2G41 F13	7G07 B11	S034 I2
2G43 I14	7G08 B13	S035 J2
2G45 I14	7G09 E11	S036 K2
2G46 I14	7G10 J10	
2G47 J11	FG00 A2	
2G48 G3	FG01 A2	
2G49 G3	FG02 B1	
2G50 H3	FG03 B2	
2G51 H3	FG04 B2	
2G52 F2	FG05 C2	
2G53 K2	FG06 C2	
2G55 I8	FG07 C2	
2G56 J8	FG08 D2	
2G63 B10	FG09 E2	
2G64 C10	FG10 D2	
2G65 K9	FG11 E2	
2G66 I9	FG12 F2	
3G00 A3	FG13 F8	
3G01 A3	FG14 G2	
3G02 A4	FG15 G2	
3G03 B4	FG16 G1	
3G04 B3	FG17 G2	
3G05 B3	FG18 H2	
3G06 B4	FG19 H1	
3G07 B4	FG20 I2	
3G08 J5	FG21 H2	
3G09 I4	FG22 J2	
3G12 C3	FG23 J2	
3G13 C3	FG24 C1	
3G14 D3	FG25 C1	
3G15 C3	FG26 G2	
3G16 C3	FG27 H2	
3G17 D3	FG28 H2	
3G26 D2	FG30 I2	
3G27 D3	FG32 G14	
3G28 E3	FG33 G14	
3G29 E3	FG34 G14	
3G30 E3	FG35 G14	
3G31 F3	FG36 G14	
3G32 E4	FG37 H14	
3G33 F3	FG38 H14	
3G34 E5	FG39 H14	
3G37 G3	FG40 H15	
3G38 G3	FG41 H14	
3G39 G4	FG42 H14	
3G40 G4	FG43 H14	
3G41 G3	FG44 H14	
3G42 H3	FG45 H14	
3G43 H4	FG47 I14	
3G44 H4	FG48 I14	
3G45 I3	FG49 I14	
3G46 I3	FG50 I14	
3G47 I6	FG51 I14	
3G48 I6	FG53 I14	
3G51 H3	FG54 I14	
3G52 H4	FG56 I14	
3G53 J3	IG00 A4	
3G54 J4	IG01 A4	
3G55 I5	IG02 A5	
3G56 J5	IG03 B5	
3G57 K3	IG04 B4	
3G58 J3	IG05 B4	
3G59 J4	IG06 C6	
3G60 K4	IG07 C6	
3G63 B9	IG08 D6	
3G64 C9	IG09 D6	
3G65 B11	IG10 D6	
3G66 C9	IG11 E3	
3G67 C10	IG12 E4	
3G68 C10	IG13 E6	
3G69 B12	IG14 G4	
3G70 C12	IG15 G4	
3G71 C14	IG16 G5	
3G72 D10	IG17 G5	
3G73 D10	IG18 G4	
3G74 D10	IG19 H4	
3G75 E9	IG20 G5	
3G76 F9	IG21 H5	
3G77 F10	IG23 H5	
3G78 F10	IG24 J4	
3G79 D12	IG25 J5	
3G80 D13	IG26 J5	
3G81 D13	IG27 K5	
3G82 D13	IG28 D10	
3G83 E12	IG29 E11	
3G84 F12	IG30 F12	
3G85 F13	IG40 I4	
3G86 F13	IG42 I5	
3G87 F13	IG43 J4	
3G88 H12	IG46 I11	
3G89 F12	IG47 K9	
3G90 H11	IG49 B8	
3G91 H12	IG50 B11	
3G92 J9	IG52 C11	
3G93 K9	IG53 C11	
3G94 I9	IG54 C11	

SSB: Top Connectors

B16 TOP CONNECTORS

B16

FOR UFD ONLY

UFD CONTROL

(1M03) 1J00

IJ01 POR (NC) LAMP_ON_OFF_1
IJ02
IJ03
IJ04
TEMP_SENSOR (NC)
IJ05 STANDBY_1
IJ06 NC
IJ07 POWER_UP_OK_1

5J05 RES
FAN_SPEED
PROTECT_AUD
3J06 RES
POWER_UP_OK IJ12

4J02 RES
2J16 RES
2J33 RES
2J20 RES
2J34 RES

B6 FROM SCALER INTERFACE
FROM SCALER B8
FROM SCALER B7

PROTECT_AUD

B5 FROM AUDIO

AUDIO-L 5J01 FJ10
AUDIO-R 5J02 FJ12
FJ11
AUDIO-SW (NC)
3V3 SOUND_ENABLE_1 FJ13
3V3 POR_AUDIO FJ14

(1M52) 1J04
B9B-PH-K-S(LF)

2J26 100p 2J27 100p 2J28 100p 2J29 100p 2J36 1n0

TO/FROM 1002 OF CLASS-D AUDIO AMPLIFIER C

UFD SUPPLY

(1M46) 1J01

FJ00
FJ01 (NC)
FJ02
1J07 +12V_UFD
5V(NC)
FJ03
FJ04
3A T
1J08 +5V_UFD
+33V_TUN(NC)
FJ05 NC
4J01

5J04 +5V
2J31 1n0

B6 TO DC-DC CONVERTER

B20 FROM EPLD

B_LT_PWM FJ15
G_LT_PWM FJ16
R_LT_PWM FJ17
B_RT_PWM FJ18
G_RT_PWM FJ19
R_RT_PWM FJ20

1J05
B7B-PH-K-S(LF)
AMBIENT LIGHT (TOP)

2J04 2J05 2J06 2J07 2J08 2J09 100p

B_LB_PWM FJ21
G_LB_PWM FJ22
R_LB_PWM FJ23
B_RB_PWM FJ24
G_RB_PWM FJ25
R_RB_PWM FJ26

1J06
B7B-PH-K-S(LF)
AMBIENT LIGHT (BOTTOM)

2J10 2J11 2J12 2J13 2J14 2J15 100p

RESERVED

TO/FROM PSU (SUPPLY FOR LCD)

1J02
VP
GND_AUDIO
FJ06
3V2 +3V3STBY
FJ07
IJ08
IJ09
IJ10
IJ11
5J03 POWER_DOWN
+12VUNREG 11V6
3J05 68R STANDBY 3V1
3J03 68R BACKLIGHT_CTRL
3J04 68R LAMP_ON_OFF 3V2
IJ13
B12P-PH-K-S(LF)

B9 FROM SCALER INTERFACE
FROM SCALER B8

2J30 1n0
2J02 1n0
2J35 1n0
2J18 100p
2J19 100p
2J17 100p
2J22 100p
2J23 100p
2J21 100p

TO/FROM 1003 OF CLASS-D AUDIO AMP (+18V / +24V) C

1J03
B3B-PH-K-S(LF)
FJ08 VP
FJ09
GND_AUDIO
2J03 1n0
GND_AUDIO

3139 123 6093.1

F_15430_016.eps 140405

1J00	B1	FJ25	E7
1J01	C1	FJ26	E7
1J02	D1	IJ01	B1
1J03	F1	IJ02	B1
1J04	B8	IJ03	B1
1J05	C8	IJ04	B1
1J06	E8	IJ05	B1
1J07	C2	IJ06	B1
1J08	C2	IJ07	B1
2J02	F2	IJ08	E2
2J03	F2	IJ09	E2
2J04	D6	IJ10	E2
2J05	D7	IJ11	E2
2J06	D7	IJ12	B4
2J07	D7	IJ13	E4
2J08	D7		
2J09	D7		
2J10	E6		
2J11	E7		
2J12	E7		
2J13	E7		
2J14	E7		
2J15	E7		
2J16	C2		
2J17	F3		
2J18	F2		
2J19	F3		
2J20	C3		
2J21	F3		
2J22	F3		
2J23	F3		
2J26	C6		
2J27	C7		
2J28	C7		
2J29	C7		
2J30	F2		
2J31	D2		
2J33	C2		
2J34	C3		
2J35	F2		
2J36	C7		
3J03	E3		
3J04	E3		
3J05	E3		
3J06	B3		
4J01	D2		
4J02	C2		
5J01	B7		
5J02	B7		
5J03	E2		
5J04	C2		
5J05	B3		
FJ00	C1		
FJ01	C1		
FJ02	C1		
FJ03	C1		
FJ04	C1		
FJ05	D1		
FJ06	E2		
FJ07	E2		
FJ08	F1		
FJ09	F2		
FJ10	B7		
FJ11	B8		
FJ12	B7		
FJ13	B7		
FJ14	C7		
FJ15	C7		
FJ16	C7		
FJ17	D7		
FJ18	D7		
FJ19	D7		
FJ20	D7		
FJ21	E7		
FJ22	E7		
FJ23	E7		
FJ24	E7		

SSB: Side Connectors

B17 SIDE CONNECTORS

B17

FOR DISC/ ARCH CABINET
RESERVED
1K03
+3V3STBY_1
PC-TV-LED_1
LED_SEL_1
4K06
4K07 RES
+3V3STBY_1
+5VSW_1
LIGHT_SENSOR_1
IR_1
KEYBOARD
ITV_IR_SW_RESET

B2
B3 B6
+3V3STBY
LED_SEL
PC-TV-LED
IR
LIGHT_SENSOR
3K11 68R
5K00 1u0
5K02 1u0
3K12 68R
3K13 68R
IK16
4K01 RES
4K03 RES
4K04
4K05
IK00 PC-TV-LED_1
IK01 LED_SEL_1
IK02 IR_1
IK03 LIGHT_SENSOR_1
2K01 1n0
2K00 1n0
2K21 100p
2K22 100p
2K23 100p
2K24 100p
2K25 100p
2K26 100p
2K27 100p
2K28 100p
J
TO/FROM 1540 OF IR/ LED
1K00 (1M21)
B6B-PH-K
FK11

B15/B23
3K00 100R
2K02 10p
2K03 10p
FRONT_Y_CVBS_IN
3K01 100R
2K04 10p
2K05 10p
FRONT_C_IN
3K02 10K
IK17
2K08 2u2
2K06 100p
2K07 100p
3K03 15K
FRONT_L_IN
5K01 1u0
+5VSW
2K19 1n0
2K20 1n0
3K05 10K
IK18
2K12 2u2
2K10 100p
2K11 100p
3K06 15K
FRONT_R_IN
* 3K07 39R
2K13 100p
2K14 100p
HP_LOUT
3K08 68R
2K15 100p
HP_DET_R_DC
* 3K09 39R
2K16 100p
2K17 100p
HP_ROUT
4K02 RES
3V3

*	UFD
2K13	10p
2K14	10p
2K16	10p
2K17	10p
3K07	10R
3K09	10R

B2
B5
B2

KEYBOARD

E
TOP/SIDE KEYBOARD
1K02 (1M01)
FK08
FK09
2K18 100p
B3B-PH-K-S(LF)

D
TO/FROM 1304 OF SIDE I/O
1K01 (1M06)
RES 1K04
FK00 FRONT_Y_CVBS_IN_1
FK01 FRONT_C_IN_1
FK02 FRONT_L_IN_1
FK03 +5VSW_1
FK04 FRONT_R_IN_1
FK10
FK05 HP_LOUT_1
FK06 HP_DET_R_DC_1
FK07 HP_ROUT_1

1K00 A8
1K01 D1
1K02 E8
1K03 A1
1K04 D1
2K00 B7
2K01 B6
2K02 C3
2K03 C3
2K04 D3
2K05 D3
2K06 D3
2K07 D3
2K08 D4
2K10 E3
2K11 E3
2K12 E4
2K13 F3
2K14 E3
2K15 F3
2K16 F3
2K17 F3
2K18 E8
2K19 E3
2K20 E3
2K21 B6
2K22 B6
2K23 B6
2K24 B6
2K25 B7
2K26 B7
2K27 B7
2K28 B7
3K00 C3
3K01 C3
3K02 D3
3K03 D3
3K05 E3
3K06 E3
3K07 E3
3K08 F3
3K09 F3
3K11 A7
3K12 A7
3K13 B7
4K01 A7
4K02 F2
4K03 A7
4K04 A7
4K05 A7
4K06 B1
4K07 B1
5K00 A7
5K01 D3
5K02 A7
FK00 E1
FK01 E1
FK02 E1
FK03 E1
FK04 E1
FK05 E1
FK06 E1
FK07 E1
FK08 E8
FK09 E8
FK10 E1
FK11 B8
IK00 A8
IK01 A8
IK02 A8
IK03 B8
IK16 A7
IK17 D3
IK18 E3

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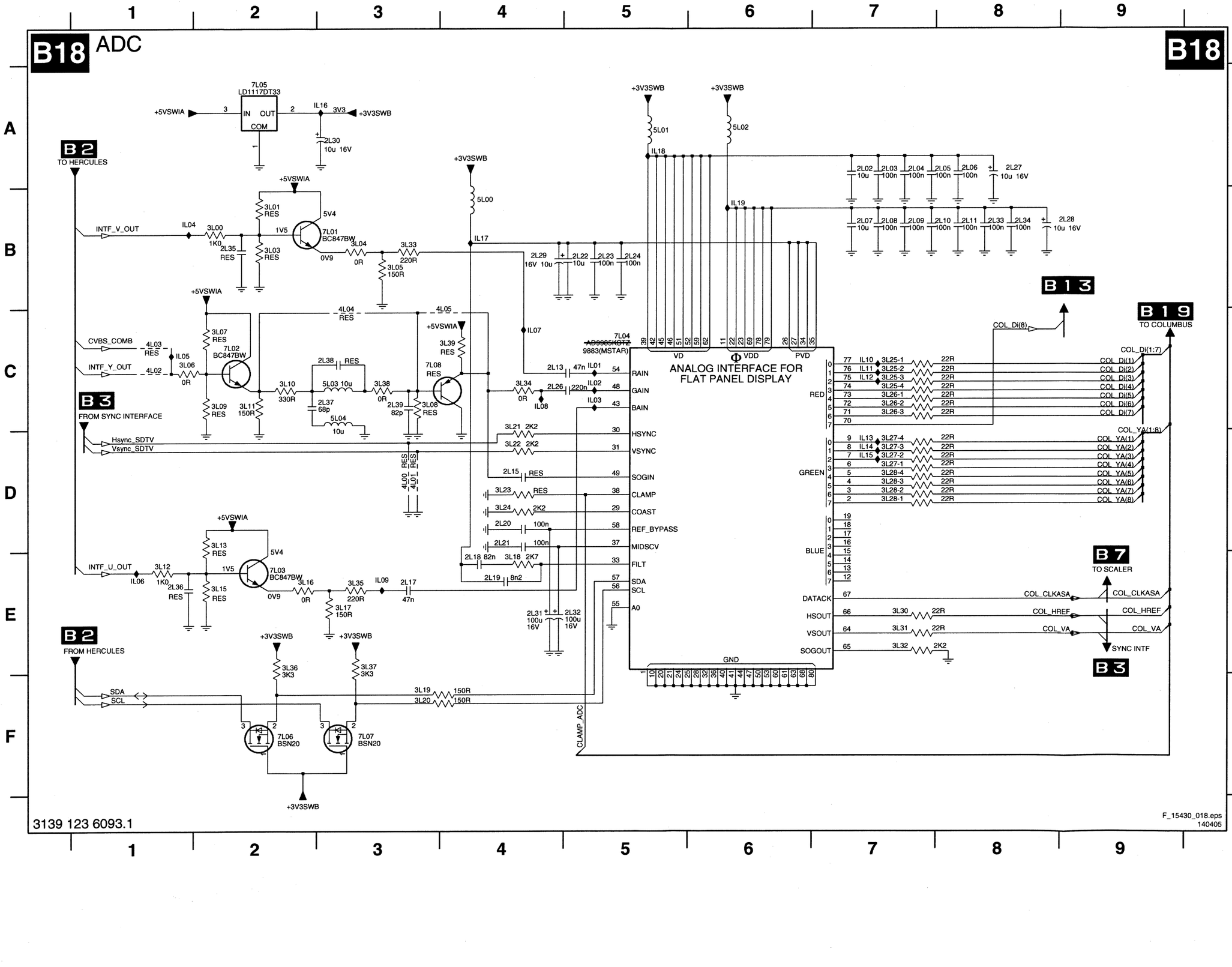
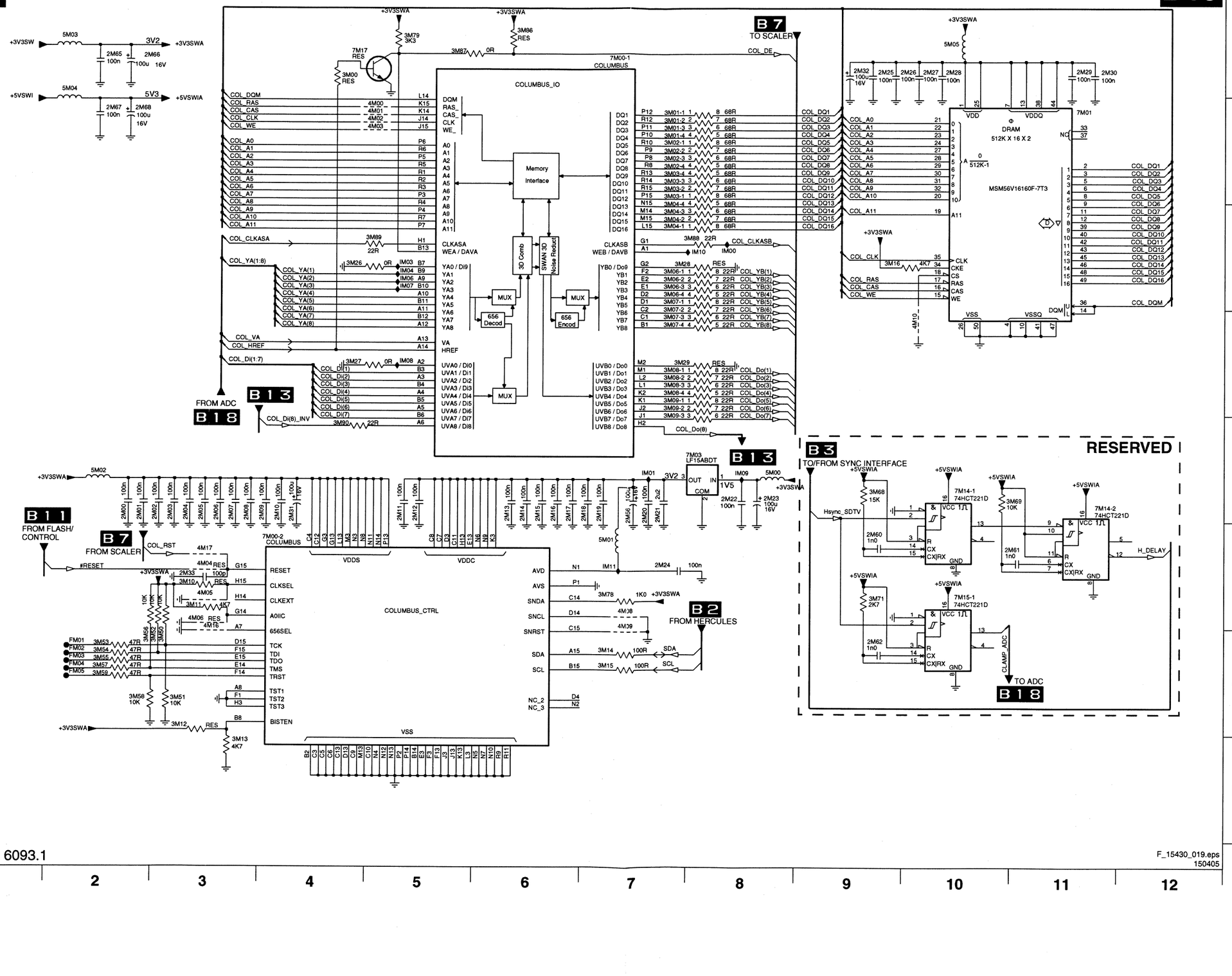
SSB: ADC



2L02 A7 3L37 E3
2L03 A7 3L38 C3
2L04 A7 3L39 C4
2L05 A8 4L00 D3
2L06 A8 4L01 D3
2L07 B7 4L02 C1
2L08 B7 4L03 C1
2L09 B7 4L04 C3
2L10 B8 4L05 C4
2L11 B8 5L00 B4
2L13 C4 5L01 A5
2L15 D4 5L02 A6
2L17 E3 5L03 C3
2L18 E4 5L04 C3
2L19 E4 7L01 B3
2L20 D4 7L02 C2
2L21 D4 7L03 E2
2L22 B5 7L04 C5
2L23 B5 7L05 A2
2L24 B5 7L06 F2
2L26 C4 7L07 F3
2L27 A8 7L08 C3
2L28 B9 IL01 C5
2L29 B4 IL02 C5
2L30 A3 IL03 C5
2L31 E4 IL04 B1
2L32 E5 IL05 C1
2L33 B8 IL06 E1
2L34 B8 IL07 C4
2L35 B2 IL08 C4
2L36 E1 IL09 E3
2L37 C3 IL10 C7
2L38 C3 IL11 C7
2L39 C3 IL12 C7
3L00 B2 IL13 D7
3L01 B2 IL14 D7
3L03 B2 IL15 D7
3L04 B3 IL16 A3
3L05 B3 IL17 B4
3L06 C1 IL18 A5
3L07 C2 IL19 B6
3L08 C3
3L09 C2
3L10 C2
3L11 C2
3L12 E1
3L13 D2
3L15 E2
3L16 E2
3L17 E3
3L18 E4
3L19 F3
3L20 F3
3L21 C4
3L22 D4
3L23 D4
3L24 D4
3L25-1 C7
3L25-2 C7
3L25-3 C7
3L25-4 C7
3L26-1 C7
3L26-2 C7
3L26-3 C7
3L27-1 D7
3L27-2 D7
3L27-3 D7
3L27-4 D7
3L28-1 D7
3L28-2 D7
3L28-3 D7
3L28-4 D7
3L30 E7
3L31 E7
3L32 E7
3L33 B3
3L34 C4
3L35 E3
3L36 E2

SSB: Columbus

B19 COLUMBUS



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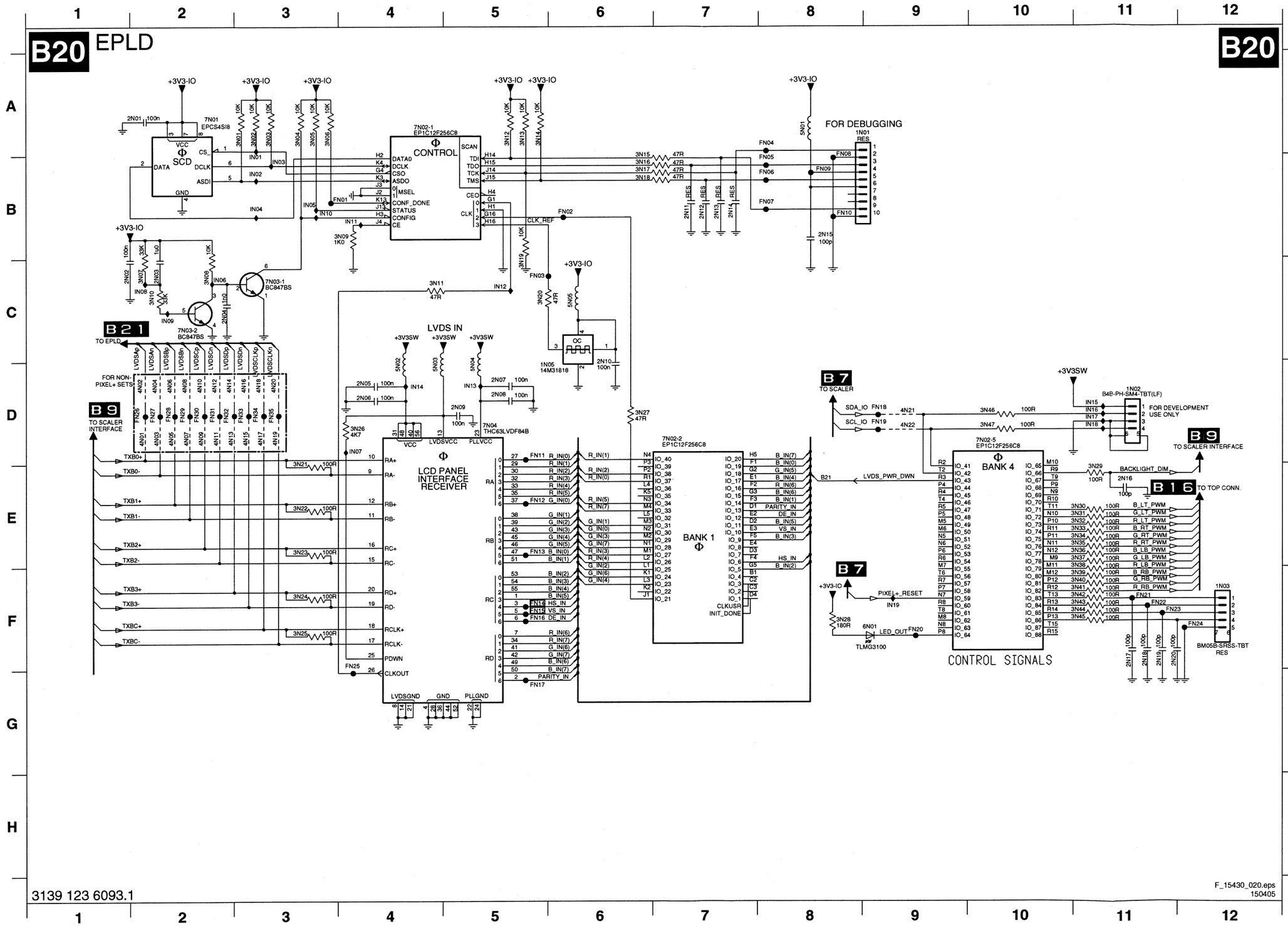
2M00	E2	3M87	A5
2M01	E2	3M88	C8
2M02	E3	3M89	C5
2M03	E3	3M90	E4
2M04	E3	4M00	B5
2M05	E3	4M01	B5
2M06	E3	4M02	B5
2M07	E3	4M03	B5
2M08	E3	4M04	F3
2M09	E4	4M05	F3
2M10	E4	4M06	F3
2M11	E5	4M08	F7
2M12	E5	4M09	F7
2M13	E6	4M10	D10
2M14	E6	4M16	F3
2M15	E6	4M17	F3
2M16	E6	5M00	E8
2M17	E6	5M01	F7
2M18	E7	5M02	E2
2M19	E7	5M03	A2
2M20	E7	5M04	A2
2M21	E7	5M05	A10
2M22	E8	7M00-1	A7
2M23	E8	7M00-2	F4
2M24	F7	7M01	B11
2M25	A9	7M03	E8
2M26	A10	7M14-1	E10
2M27	A10	7M14-2	E11
2M28	A10	7M15-1	F10
2M29	A11	7M17	A4
2M30	A11	FM01	G2
2M31	E4	FM02	G2
2M32	A9	FM03	G2
2M33	F3	FM04	G2
2M56	E7	FM05	G2
2M60	F9	IM00	C8
2M61	F11	IM01	E7
2M62	G9	IM03	C5
2M65	A2	IM04	C5
2M66	A2	IM06	C5
2M67	B2	IM07	C5
2M68	B2	IM08	D5
3M00	A4	IM09	E8
3M01-1	B7	IM10	C8
3M01-2	B7	IM11	F7
3M01-3	B7		
3M01-4	B7		
3M02-1	B7		
3M02-2	B7		
3M02-3	B7		
3M02-4	B7		
3M03-1	B7		
3M03-2	B7		
3M03-3	B7		
3M03-4	B7		
3M04-1	C7		
3M04-2	C7		
3M04-3	C7		
3M04-4	C7		
3M06-1	C7		
3M06-2	C7		
3M06-3	C7		
3M06-4	C7		
3M07-1	C7		
3M07-2	D7		
3M07-3	D7		
3M07-4	D7		
3M08-1	D7		
3M08-2	D7		
3M08-3	D7		
3M08-4	D7		
3M09-1	D7		
3M09-2	D7		
3M09-3	E7		
3M10	F3		
3M11	F3		
3M12	G3		
3M13	H3		
3M14	G7		
3M15	G7		
3M16	C9		
3M26	C4		
3M27	D4		
3M28	C7		
3M29	D7		
3M50	G3		
3M51	G3		
3M52	G3		
3M53	G2		
3M54	G2		
3M55	G2		
3M56	G2		
3M57	G2		
3M58	G2		
3M59	G2		
3M68	E9		
3M69	E11		
3M71	F9		
3M78	F7		
3M79	A5		
3M86	A6		

SSB: EPLD



1N01 A9	7N02-2 D7
1N02 D11	7N02-5 D10
1N03 F12	7N03-1 C3
1N05 D5	7N03-2 C2
2N01 A2	7N04 D5
2N02 C1	FN01 B4
2N03 C2	FN02 B6
2N04 C2	FN03 C5
2N05 D4	FN04 A8
2N06 D4	FN05 B8
2N07 D5	FN06 B8
2N08 D5	FN07 B8
2N09 D5	FN08 B8
2N10 D6	FN09 B8
2N11 B7	FN10 B8
2N12 B7	FN11 D5
2N13 B7	FN12 E5
2N14 B7	FN13 E5
2N15 B8	FN14 F5
2N16 E11	FN15 F5
2N17 F11	FN16 F5
2N18 F11	FN17 G5
2N19 F11	FN18 D9
2N20 F11	FN19 D9
3N01 A3	FN20 F9
3N02 A3	FN21 F11
3N03 A3	FN22 F11
3N04 A3	FN23 F11
3N05 A3	FN24 F12
3N06 A3	FN25 F4
3N07 C2	FN26 D2
3N08 C2	FN27 D2
3N09 B4	FN28 D2
3N10 C2	FN29 D2
3N11 C4	FN30 D2
3N12 A5	FN31 D2
3N13 A5	FN32 D2
3N14 A5	FN33 D3
3N15 B6	FN34 D3
3N16 B6	FN35 D3
3N17 B6	IN01 B3
3N18 B6	IN02 B3
3N19 C5	IN03 B3
3N20 C5	IN04 B3
3N21 E3	IN05 B3
3N22 E3	IN06 C2
3N23 E3	IN07 D4
3N24 F3	IN08 C2
3N25 F3	IN09 C2
3N26 D4	IN10 B3
3N27 D6	IN11 B4
3N28 F8	IN12 C5
3N29 E11	IN13 D5
3N30 E11	IN14 D4
3N31 E11	IN15 D11
3N32 E11	IN16 D11
3N33 E11	IN17 D11
3N34 E11	IN18 D11
3N35 E11	IN19 F9
3N36 E11	
3N37 E11	
3N38 F11	
3N39 F11	
3N40 F11	
3N41 F11	
3N42 F11	
3N43 F11	
3N44 F11	
3N45 F11	
3N46 D10	
3N47 D10	
4N01 D2	
4N02 D2	
4N03 D2	
4N04 D2	
4N05 D2	
4N06 D2	
4N07 D2	
4N08 D2	
4N09 D2	
4N10 D2	
4N11 D2	
4N12 D2	
4N13 D2	
4N14 D2	
4N15 D3	
4N16 D3	
4N17 D3	
4N18 D3	
4N19 D3	
4N20 D3	
4N21 D9	
4N22 D9	
5N01 A8	
5N02 D4	
5N03 D4	
5N04 D5	
5N05 C6	
6N01 F9	
7N01 A2	
7N02-1 A4	

SSB: EPLD

B21 EPLD

B21

+3V3SW
FP01
5P01
FP02
+3V3-IO
2P01 2u2
2P02 100n
2P03 100n
2P04 100n
2P05 100n
2P06 100n
2P07 100n
2P08 100n
2P09 100n
2P10 100n
2P11 100n
2P12 100n
2P13 100n
2P14 100n
7P01
LF15ABDT
IN OUT COM
1 3 2
2P15 100u 16V
2P16 100n
FP03
+1V5
2P17 2u2
5P02
FP04
+1V5-PLL
2P18 2u2
2P19 100n
2P20 100n
2P21 100n
5P03
FP05
+1V5-INT
2P22 2u2
2P23 100n
2P24 100n
2P25 100n
2P26 100n
2P27 100n
2P28 100n
2P29 100n
2P30 100n

EAGLE INTERFACE
7N02-3
EP1C12F256C8
BANK 2
N.C. N.C.

7N02-6
EP1C12F256C8
POWER
+3V3-IO
BANK1 BANK2 BANK3 BANK4
VCCIO
+1V5-INT
VCCINT
+1V5-PLL
PLL1 PLL2 VCCA
GND
GNDA PLL1 PLL2
GNDG PLL1 PLL2

FOR MFD ONLY

*	26"/32" 16X9	23" 15X9
4P01	-	-
4P02	YES	-

LVDS_VCC
LVDS_OP1
1P06
NC
0-1453230-3
TO LCD PANEL (TIMING CONTROL)

LVDS TRANSMITTER
+3V3SW
2P31 100n
2P32 100n
2P33 100n
5P04
5P05
5P06
2P34 100n
2P35 100n
+3V3-IO
3P01 4K7
7P02
THC63LVDM83R
VCC LVDS VCC PLL VCC
RS PDWN R/F CLKIN
TA TB TC TD
39 LVDSCLKp
40 LVDSCLKn
47 LVDSAp
48 LVDSAn
45 LVDSBp
46 LVDSBn
41 LVDSCp
42 LVDSCn
37 LVDSDp
38 LVDSDn
GND LVDS GND PLL GND

B20 (H=NORMAL)
LVDS_PWR_DWN FP06
CLK_OUT FP07
3P03 47R
R(0) FP08
G(0) FP09
B(0) FP10
HS_OUT FP11
VS_OUT FP12
DE_OUT FP13
R(6) FP14
PARITY_OUT

LVDS OUT
7N02-4
EP1C12F256C8
BANK 3
PARITY_OUT HS_OUT VS_OUT DE_OUT B(5) B(4) B(6) B(3) B(2) G(4) G(5) B(1) B(7) B(0) CLK_OUT G(7)

B20 FROM EPLD

B9 FROM SCALER INTERFACE

FOR UFD ONLY
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
+3V3SW
4P09 BES
3P05 100R
3P04 100R
4P10 BES
LVDSD+ LVDSD- LVDSCLK+ LVDSCLK- LVDSC+ LVDSC- LVDSB+ LVDSB- LVDSA+ LVDSA-
4P03 4P04 4P05 4P06 4P07 4P08
* 4P01 * 4P02
LVDS_OPT
CTRL_DISP2
CTRL_DISP1
(NC) VDISP_2
(NC) VDISP2
(1G50) 1P07
FP15 FP16 FP17
FI-WE31P-HFE-E1500
LVDS_VCC
FROM DC-DC CONVERTER
B6 FOR LCD ONLY

1P01 E
1P02 E
1P03 F
1P04 F
1P05 G
1P06 A
1P07 D
2P01 B
2P02 B
2P03 B
2P04 B
2P05 B
2P06 B
2P07 B
2P08 B
2P09 B
2P10 B
2P11 B
2P12 B
2P13 B
2P14 B
2P15 B
2P16 B
2P17 B
2P18 B
2P19 B
2P20 B
2P21 B
2P22 C
2P23 C
2P24 C
2P25 C
2P26 C
2P27 C
2P28 C
2P29 C
2P30 C
2P31 C
2P32 C
2P33 C
2P34 C
2P35 C
2P36 C
2P37 E
2P38 E
2P39 E
2P40 F
2P41 F
2P42 F
2P43 F
2P44 G
2P45 G
3P01 D
3P03 E
3P04 D
3P05 D
4P01 F
4P02 F
4P03 F
4P04 F
4P05 F
4P06 F
4P07 F
4P08 F
4P09 D
4P10 E
5P01 A
5P02 B
5P03 C
5P04 D
5P05 D
5P06 D
7N02-3
7N02-4
7N02-6
7P01 B
7P02 D
FP01 A
FP02 A
FP03 E
FP04 E
FP05 C
FP06 D
FP07 E
FP08 E

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SSB: Diversity Tables B9-B21

B9 MUX-SYNC INTERFACE

Item	LC4.3x	LC4.8x	LC4.9x	Description
2A00			V	CER2 0603 X7R 16V 100N COL
2A01			V	CER1 0402 NP0 50V 100P COL
2A02			V	CER1 0402 NP0 50V 100P COL
2A03		V		CER2 0603 Y5V 10V 1U COL
2A12		V	V	CER2 0402 X7R 16V 10N COL
2A13		V	V	CER2 0402 Y5V 16V 100N COL
3A00			V	RST SM 0402 68R PM5 COL
3A01			V	RST SM 0402 68R PM5 COL
3A02	V	V		RST SM 0402 1K PM5 COL
3A06		V		RST SM 0603 10K PM5COL
3A06	V			RST SM 0603 JUMP. 0R05 COL
3A07			V	RST SM 0402 10K PM5 COL
3A07				RST SM 0402 68R PM5 COL
3A08			V	RST SM 0402 10K PM5 COL
3A10		V	V	RST SM 0402 10K PM5 COL
3A11		V	V	RST SM 0402 10K PM5 COL
3A13		V	V	RST SM 0402 10K PM5 COL
3A14		V	V	RST SM 0402 560R PM5 COL
4A03	V	V		RST SM 0603 JUMP. 0R05 COL
4A04			V	RST SM 0402 JUMP. 0R05 COL
4A05	V			RST SM 0402 JUMP. 0R05 COL
4A06	V			RST SM 0402 JUMP. 0R05 COL
5A00			V	FXDIND 0805 100MHZ 30R COL R
6A01		V	V	DIO REG SM BZX384-C3V9 COL R
7A00			V	IC SM PCA9515ADP (PHSE) R
7A02		V	V	TRA SIG SM BC847BW (COL) R
7A03		V	V	TRA SIG SM BC847BW (COL) R

B13 MUX-SYNC INTERFACE

ITEM	AP/EU/AP-DVB (with Teletext)	EU-DVB (with Teletext)	NAFTA/LT & China (non-Teletext)	DESCRIPTION
2E00	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E01	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E02	V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2E04	V	V		CER2 0402 X5R 6V3 1U PM20 R
2E05	V	V		CER2 0402 X5R 6V3 1U PM20 R
2E06	V	V		CER2 0402 X5R 6V3 1U PM20 R
3E06	V		V	RST SM 0402 47K PM5 COL
3E07	V		V	RST SM 0402 47K PM5 COL
3E08	V		V	RST SM 0402 47K PM5 COL
3E13	V	V		RST SM 0402 330R PM5 COL
3E14	V	V		RST SM 0402 330R PM5 COL
3E15	V	V		RST SM 0402 330R PM5 COL
3E16	V	V		RST SM 0402 330R PM5 COL
3E17	V	V		RST SM 0402 330R PM5 COL
3E18	V	V		RST SM 0402 330R PM5 COL

B15 ANALOG I/O SCART

Item	26/32PF	DVB.T 26/32PF	37/42PF	DVB.T 37/42PF	Description
1G01	V	V			SOC EURO H 21P F BK R-GRND B
1G01			V	V	SOC EURO H 21P F SHD R-GRND Y
1G02	V	V			SOC EURO H 21P F BK R-GRND B
1G02			V	V	SOC EURO H 21P F SHD R-GRND Y
1G03		V		V	CON H 32P F 0.50 SM FPC 0.3 R
2G29		V		V	ELCAP SM 16V 10U PM20 COL R
2G30		V		V	CER2 0603 X7R 16V 100N COL
2G31		V		V	CER2 0603 X7R 16V 100N COL
2G32				V	CER2 0603 Y5V 25V 100N COL
2G33		V		V	CER2 0603 Y5V 16V 220N COL
2G34		V		V	ELCAP SM 16V 10U PM20 COL R
2G35		V		V	CER2 0603 Y5V 25V 100N COL
2G36		V		V	CER2 0603 Y5V 10V 1U COL
2G37		V		V	RST SM 0603 330R PM5 COL
2G38		V		V	CER2 0603 Y5V 10V 1U COL
2G39		V		V	CER2 0603 Y5V 10V 1U COL
2G40		V		V	RST SM 0603 JUMP. 0R05 COL
2G41		V		V	RST SM 0603 330R PM5 COL
2G43		V		V	CER2 0603 X7R 50V 1N COL
2G45		V		V	CER2 0603 X7R 50V 1N COL
2G46		V		V	CER2 0603 X7R 50V 1N COL
2G63		V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2G64		V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2G65		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G65		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G66		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
2G66		V		V	CER2 0603 X5R 6V3 4U7 PM10 R
3G63		V		V	RST SM 0603 10K PM5COL
3G64		V		V	RST SM 0603 10K PM5COL
3G65		V		V	RST SM 0603 10K PM5COL
3G66				V	RST SM 0603 150R PM5 COL
3G67		V		V	RST SM 0603 15K PM5 COL
3G68		V		V	RST SM 0603 15K PM5 COL
3G69		V		V	RST SM 0603 47K PM5 COL
3G70		V		V	RST SM 0603 47K PM5 COL
3G71		V		V	RST SM 0603 560R PM5 COL
3G72		V		V	RST SM 0603 10K PM5COL
3G73		V		V	RST SM 0603 47K PM5 COL
3G75		V		V	RST SM 0603 100R PM5 COL
3G76		V		V	RST SM 0603 100R PM5 COL
3G77		V		V	RST SM 0603 47K PM5 COL
3G79		V		V	RST SM 0603 47K PM5 COL
3G81		V		V	RST SM 0603 47K PM5 COL
3G83		V		V	RST SM 0603 100R PM5 COL
3G84		V		V	RST SM 0603 100R PM5 COL
3G86		V		V	RST SM 0603 47K PM5 COL
3G88		V		V	RST SM 0603 75R PM5 COL
3G89		V		V	RST SM 0603 47K PM5 COL
3G92		V		V	RST SM 0603 47K PM5 COL
3G93		V		V	RST SM 0603 47K PM5 COL
3G94		V		V	RST SM 0603 47K PM5 COL
3G95		V		V	RST SM 0603 47K PM5 COL
4G09		V		V	RST SM 0603 JUMP. 0R05 COL
4G11	V		V		RST SM 0603 JUMP. 0R05 COL
4G12	V		V		RST SM 0603 JUMP. 0R05 COL
4G13	V		V		RST SM 0603 JUMP. 0R05 COL
4G14	V		V		RST SM 0603 JUMP. 0R05 COL
4G15	V		V		RST SM 0603 JUMP. 0R05 COL
4G16	V		V		RST SM 0603 JUMP. 0R05 COL
4G17	V		V		RST SM 0603 JUMP. 0R05 COL
4G18	V		V		RST SM 0603 JUMP. 0R05 COL
4G19	V		V		RST SM 0603 JUMP. 0R05 COL
4G22		V		V	RST SM 0603 JUMP. 0R05 COL
5G01		V		V	FXDIND 0603 100MHZ 120R COL R
6G02		V		V	DIO SIG SM BAS316 (COL) R
7G07		V		V	IC SM 74HC4053D (PHSE) R
7G08		V		V	TRA SIG SM BC847B (COL) R
7G09		V		V	IC SM ADG734BRUZ (ANA0) R

B16 SIDE CONNECTORS

Item	LC4.3x - CINCH	LC4.3E - SCART	LC4.9x - PDP	LC4.8x - LCD	Description
1J00			V	V	CON V 10P M 2.00 PH B
1J01			V	V	CON V 11P M 2.00 PH B
1J02	V	V			CON V 12P M 2.00 PH B
1J03	V	V			CON V 3P M 2.00 PH B
1J07			V	V	FUSE SM T 3A 125V UL R
1J08			V	V	FUSE SM F 630MA 50V UL R
2J31			V	V	CER1 0402 NP0 50V 100P COL
3J03	V	V		V	RST SM 0402 68R PM5 COL
3J04	V	V		V	RST SM 0402 68R PM5 COL
4J01			V	V	RST SM 0402 JUMP. 0R05 COL
5J04			V	V	IND FXD 1206 EMI 100MHZ 120R R

B17 SIDE CONNECTORS

Item	LC4.3x - ME5 styling	LC4.3x - Arch Styling	LC4.8x - LCD	LC4.9x - PDP	Description
1K00	V		V	V	CON V 6P M 2.00 PH B
1K01	V				CON V 12P M 2.00 PH B
1K03		V			CON V 20P F 1.25 FFC 0.3 B
1K04			V	V	CON V 11P M 2.00 PH B
2K15	V	V			CER1 0402 NP0 50V 100P COL
3K08	V	V			RST SM 0402 68R PM5 COL
4K02			V	V	RST SM 0603 JUMP. 0R05 COL
4K06		V			RST SM 0402 JUMP. 0R05 COL
5K01	V	V		V	FXDIND SM 0603 1U PM10 COL R

B18 ADC

Item	non-DVB sets with 3D Comb Filter	DVB sets with 3D Comb Filter	Description
3L38		V	RST SM 0402 JUMP. 0R05 COL
4L05		V	RST SM 0402 JUMP. 0R05 COL
5L04		V	RST SM 0603 JUMP. 0R05 COL

B20 & B21 PIXEL PLUS

Item	LC4.3 non PIXEL+	LC4.3 with PIXEL+	42PF7320/28	LC4.8/LC4.9 non PIXEL+	LC4.8/LC4.9 with PIXEL+	Description
1N02		V	V		V	CON V 4P M 2.00 SM PH R
1N05		V	V		V	OSC XTL SM 14M31818 15P OC R
1P06	V	V				CON V 30P M 1.25 SM 1453230 R
1P07			V	V	V	CON H 31P F 1.25 SM FI-WE R
2N01		V	V		V	CER2 0402 Y5V 16V 100N COL
2N02		V	V		V	CER2 0402 Y5V 16V 100N COL
2N03		V	V		V	CER2 0402 X5R 6V3 1U PM20 R
2N04		V	V		V	CER2 0402 X7R 50V 1N COL
2N05		V	V		V	CER2 0402 Y5V 16V 100N COL
2N06		V	V		V	CER2 0402 Y5V 16V 100N COL
2N07		V	V		V	CER2 0402 Y5V 16V 100N COL
2N08		V	V		V	CER2 0402 Y5V 16V 100N COL
2N09		V	V		V	CER2 0402 Y5V 16V 100N COL
2N10		V	V		V	CER2 0402 Y5V 16V 100N COL
2N11		V	V		V	CER1 0402 NP0 50V 100P COL
2N12		V	V		V	CER1 0402 NP0 50V 100P COL
2N13		V	V		V	CER1 0402 NP0 50V 100P COL
2N14		V	V		V	CER1 0402 NP0 50V 100P COL
2N15		V	V		V	CER1 0402 NP0 50V 100P COL
2N16		V	V		V	CER1 0402 NP0 50V 100P COL
2P01		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P02		V	V		V	CER2 0402 Y5V 16V 100N COL
2P03		V	V		V	CER2 0402 Y5V 16V 100N COL
2P04		V	V		V	CER2 0402 Y5V 16V 100N COL
2P05		V	V		V	CER2 0402 Y5V 16V 100N COL
2P06		V	V		V	CER2 0402 Y5V 16V 100N COL
2P07		V	V		V	CER2 0402 Y5V 16V 100N COL
2P08		V	V		V	CER2 0402 Y5V 16V 100N COL
2P09		V	V		V	CER2 0402 Y5V 16V 100N COL
2P10		V	V		V	CER2 0402 Y5V 16V 100N COL
2P11		V	V		V	CER2 0402 Y5V 16V 100N COL
2P12		V	V		V	CER2 0402 Y5V 16V 100N COL
2P13		V	V		V	CER2 0402 Y5V 16V 100N COL
2P14		V	V		V	CER2 0402 Y5V 16V 100N COL
2P15		V	V		V	ELCAP SM 16V 100U PM20 COL R
2P16		V	V		V	CER2 0402 Y5V 16V 100N COL
2P17		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P18		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P19		V	V		V	CER2 0402 Y5V 16V 100N COL
2P20		V	V		V	CER2 0402 Y5V 16V 100N COL
2P21		V	V		V	CER2 0402 Y5V 16V 100N COL
2P22		V	V		V	CER2 0603 X5R 6V3 2U2 PM10 R
2P23		V	V		V	CER2 0402 Y5V 16V 100N COL
2P24		V	V		V	CER2 0402 Y5V 16V 100N COL
2P25		V	V		V	CER2 0402 Y5V 16V 100N COL
2P26		V	V		V	CER2 0402 Y5V 16V 100N COL
2P27		V	V		V	CER2 0402 Y5V 16V 100N COL
2P28		V	V		V	CER2 0402 Y5V 16V 100N COL
2P29		V	V		V	CER2 0402 Y5V 16V 100N COL
2P30		V	V		V	CER2 0402 Y5V 16V 100N COL
2P31		V	V		V	CER2 0402 Y5V 16V 100N COL
2P32		V	V		V	CER2 0402 Y5V 16V 100N COL
2P33		V	V		V	CER2 0402 Y5V 16V 100N COL
2P34		V	V		V	CER2 0402 Y5V 16V 100N COL
2P35		V	V		V	CER2 0402 Y5V 16V 100N COL
3N01		V	V		V	RST SM 0402 10K PM5 COL
3N02		V	V		V	RST SM 0402 10K PM5 COL
3N03		V	V		V	RST SM 0402 10K PM5 COL
3N04		V	V		V	RST SM 0402 10K PM5 COL
3N05		V	V		V	RST SM 0402 10K PM5 COL
3N06		V	V		V	RST SM 0402 10K PM5 COL
3N07		V	V		V	RST SM 0603 33K PM5 COL
3N08		V	V		V	RST SM 0402 10K PM5 COL
3N09		V	V		V	RST SM 0402 1K PM5 COL
3N10		V	V		V	RST SM 0402 33K PM5 COL
3N11		V	V		V	RST SM 0402 47R PM5 COL
3N12		V	V		V	RST SM 0402 10K PM5 COL
3N13		V	V		V	RST SM 0402 10K PM5 COL
3N14		V	V		V	RST SM 0402 10K PM5 COL
3N15		V	V		V	RST SM 0402 47R PM5 COL
3N16		V	V		V	RST SM 0402 47R PM5 COL

Item	LC4.3 non PIXEL+	LC4.3 with PIXEL+	42PF7320/28	LC4.8/LC4.9 non PIXEL+	LC4.8/LC4.9 with PIXEL+	Description
3N17		V	V		V	RST SM 0402 47R PM5 COL
3N18		V	V		V	RST SM 0402 47R PM5 COL
3N19		V	V		V	RST SM 0402 10K PM5 COL
3N20		V	V		V	RST SM 0402 47R PM5 COL
3N21		V	V		V	RST SM 0402 100R PM5 COL
3N22		V	V		V	RST SM 0402 100R PM5 COL
3N23		V	V		V	RST SM 0402 100R PM5 COL
3N24		V	V		V	RST SM 0402 100R PM5 COL
3N25		V	V		V	RST SM 0402 100R PM5 COL
3N26		V	V		V	RST SM 0402 4K7 PM5 COL
3N27		V	V		V	RST SM 0402 47R PM5 COL
3N28		V	V		V	RST SM 0603 180R PM5 COL
3N29		V	V		V	RST SM 0402 100R PM5 COL
3N30		V	V		V	RST SM 0402 100R PM5 COL
3N31		V	V		V	RST SM 0402 100R PM5 COL
3N32		V	V		V	RST SM 0402 100R PM5 COL
3N33		V	V		V	RST SM 0402 100R PM5 COL
3N34		V	V		V	RST SM 0402 100R PM5 COL
3N35		V	V		V	RST SM 0402 100R PM5 COL
3N46		V	V		V	RST SM 0402 100R PM5 COL
3N47		V	V		V	RST SM 0402 100R PM5 COL
3P01		V	V		V	RST SM 0402 4K7 PM5 COL
3P03		V	V		V	RST SM 0402 47R PM5 COL
3P04				V		RST SM 0402 100R PM5 COL
3P04					V	RST SM 0402 JUMP. 0R05 COL
3P05				V		RST SM 0402 100R PM5 COL
3P05					V	RST SM 0402 JUMP. 0R05 COL
4N01	V				V	RST SM 0402 JUMP. 0R05 COL
4N02	V				V	RST SM 0402 JUMP. 0R05 COL
4N03	V				V	RST SM 0402 JUMP. 0R05 COL
4N04	V				V	RST SM 0402 JUMP. 0R05 COL
4N05	V				V	RST SM 0402 JUMP. 0R05 COL
4N06	V				V	RST SM 0402 JUMP. 0R05 COL
4N07	V				V	RST SM 0402 JUMP. 0R05 COL
4N08	V				V	RST SM 0402 JUMP. 0R05 COL
4N09	V				V	RST SM 0402 JUMP. 0R05 COL
4N10	V				V	RST SM 0402 JUMP. 0R05 COL
4N11	V				V	RST SM 0402 JUMP. 0R05 COL
4N12	V				V	RST SM 0402 JUMP. 0R05 COL
4N13	V				V	RST SM 0402 JUMP. 0R05 COL
4N14	V				V	RST SM 0402 JUMP. 0R05 COL
4N15	V				V	RST SM 0402 JUMP. 0R05 COL
4N16	V				V	RST SM 0402 JUMP. 0R05 COL
4N17	V				V	RST SM 0402 JUMP. 0R05 COL
4N18	V				V	RST SM 0402 JUMP. 0R05 COL
4N19	V				V	RST SM 0402 JUMP. 0R05 COL
4N20	V				V	RST SM 0402 JUMP. 0R05 COL
4N21		V	V		V	RST SM 0402 JUMP. 0R05 COL
4N22		V	V		V	RST SM 0402 JUMP. 0R05 COL
4P01						RST SM 0402 JUMP. 0R05 COL
4P02						RST SM 0402 JUMP. 0R05 COL
4P07				V		RST SM 0402 JUMP. 0R05 COL
5N01		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N02		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N03		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N04		V	V		V	FXDIND 0805 100MHZ 30R COL R
5N05		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P01		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P02		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P03		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P04		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P05		V	V		V	FXDIND 0805 100MHZ 30R COL R
5P06		V	V		V	FXDIND 0805 100MHZ 30R COL R
6N01		V	V		V	LED VS SM TLMG3100 (VISH) R
7N01		V	V		V	IC SM EPCS4SI8N (ALT0) R
7N02		V	V		V	IC SM EP1C12F256C8N (ALT0) Y
7N03		V	V		V	TRA SIG SM BC847BS (PHSE) R
7N04		V	V		V	IC SM THC63LVDF84B (THIN) R
7P01		V	V		V	IC SM LF15ABDT (ST00) R
7P02		V	V		V	IC SM THC63LVDM83R (THIN) R

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Layout Small Signal Board (Top Side Overview)

1101 D2 2109 D1 2282 B3 2701 A6 2803 B6 2823 C5 2922 C6 2945 B6 2B07 B7 2D10 C7 2E25 C5 2G09 D4 2G52 D2 2K18 C1 2L18 B3 2N03 A6 2P02 A6 2P22 A6 3106 D2 3125 D1 3233 A2 3258 B3 3458 B3 3625 B1 3741 B3 3828 B5 3A02 C6 3C14 B5 3D25 C7 3E32 C5 3G02 D4 3G31 D2 3G54 D5 3N35 A7 5735 A3 7E04 C5
1104 B1 2110 C2 2283 B3 2708 A5 2804 B6 2824 C5 2923 B6 2946 B6 2B08 B7 2D11 C7 2E26 C5 2G10 D3 2G53 D5 2K19 B1 2L19 B4 2N04 A6 2P03 A6 2P23 A6 3107 C2 3201 A2 3237 A2 3259 A3 3459 B3 3626 B1 3742 B3 3829 B5 3A03 C6 3C15 B4 3D26 C7 3E33 C5 3G03 D4 3G32 D2 3G55 D5 3N42 A7 5738 A3 7E05 C5
1106 B1 2111 C2 2284 B3 2710 A4 2805 B6 2900 B7 2924 B6 2947 B6 2B09 B7 2D13 C7 2E27 C5 2G12 D3 2K00 A1 2K20 B1 2L23 B4 2N05 A6 2P04 A6 2P24 A6 3108 C2 3202 A2 3238 A2 3260 A3 3461 C3 3627 B1 3743 B3 3830 B5 3A04 C6 3C16 B5 3D27 C7 3E34 C5 3G04 D3 3G33 D2 3G56 D5 3N43 A7 5755 A5 7G03 D3
1107 D2 2112 C2 2292 B3 2711 A4 2806 B6 2905 B5 2925 B6 2948 B6 2B10 B7 2D14 C7 2E28 C5 2G16 D2 2K01 A1 2K21 A1 2L24 B4 2N06 A6 2P05 A6 2P25 A6 3109 C2 3203 A2 3239 A2 3275 A2 3462 C3 3628 A1 3750 A5 3831 B5 3A05 C6 3C17 B4 3D30 C7 3E35 C5 3G05 D3 3G34 D2 3G57 D5 3N44 A7 5756 A5 7G05 D5
1751 A5 2113 C2 2293 B2 2714 A5 2807 B6 2906 B5 2926 B6 2949 B6 2B11 B7 2D16 C7 2E29 C5 2G17 D2 2K02 B1 2K22 A1 2L26 B3 2N07 B6 2P06 A6 2P26 A6 3110 C2 3204 A2 3240 A2 3276 A2 3463 B3 3629 A1 3755 A5 3832 B5 3A06 C6 3C18 B4 3D31 C7 3E36 C5 3G06 D3 3G37 D6 3G58 D4 3N45 A7 5757 A5 7L01 B3
1802 B6 2114 C2 2449 C3 2715 A5 2808 C6 2907 B5 2927 B5 2950 B5 2B12 B7 2D18 C7 2E30 C5 2G18 D6 2K03 B1 2K23 A1 2L33 B4 2N08 B6 2P07 A6 2P27 A6 3111 C2 3205 A2 3241 A2 3283 B2 3604 A1 3630 A2 3758 A6 3833 B5 3C00 B5 3C19 B4 3D32 C7 3E37 C4 3G07 D3 3G38 D5 3G59 D4 3N46 B7 5758 A5 7L02 B3
1C00 C5 2201 A2 2603 A1 2730 A4 2809 C6 2908 B5 2928 B5 2951 B6 2B13 B7 2D19 C7 2E31 C5 2G19 D5 2K04 B1 2K24 A1 2L34 B4 2N09 B6 2P08 A6 2P28 A6 3112 C2 3206 A2 3243 A2 3284 B2 3605 A1 3631 A1 3759 A5 3834 B5 3C01 B5 3C20 B5 3D33 C7 3E38 C5 3G08 D5 3G39 D6 3G60 D4 3N47 B7 5759 A5 7L03 B3
1N01 A7 2202 A2 2604 A1 2733 A3 2810 C6 2909 B5 2929 B5 2952 B6 2B14 B7 2D28 C7 2E32 C4 2G21 D5 2K05 B1 2K25 A1 2L35 B3 2N10 A7 2P09 A6 2P29 A6 3113 C2 3208 B3 3246 A2 3287 B3 3609 A1 3632 A1 3760 A5 3835 B5 3C02 C5 3C21 B5 3D34 C7 3E39 C5 3G09 D5 3G40 D5 3K00 B1 3P01 A6 5901 C5 7L04 B4
1N02 B7 2219 B2 2605 A2 2734 A3 2811 C6 2910 B5 2930 C5 2B15 B7 2D29 C7 2E36 D4 2G22 D5 2K06 B1 2K26 A1 2L36 B3 2N11 A7 2P10 A6 2P30 A6 3114 C2 3209 B3 3247 A2 3288 B3 3610 A2 3633 A2 3761 A5 3836 B5 3C03 C5 3D00 C7 3D35 C7 3E41 D5 3G12 D3 3G41 D5 3K01 B1 3P03 A6 5902 C6 7L06 C3
1N03 A7 2220 B2 2608 A2 2735 A3 2812 C6 2911 B5 2931 C5 2954 C5 2B16 B7 2D30 C7 2E37 C5 2G23 D5 2K07 B1 2K27 A1 2L37 B3 2N12 A7 2P11 A6 2P31 A7 3115 C1 3210 B3 3248 A2 3289 B3 3611 A2 3708 A5 3800 B5 3837 B5 3C04 B5 3D01 C7 3E01 D4 3E42 C5 3G13 D3 3G42 D5 3K02 B1 3S01 D4 5903 B5 7L07 C3
1N05 A7 2225 A2 2609 A1 2741 B3 2813 B6 2912 B5 2932 C5 2955 C5 2C00 B5 2D33 C7 2E38 C5 2G25 D5 2K08 B1 2K28 A1 2L38 B3 2N13 A7 2P12 A6 2P32 A7 3116 C2 3211 B3 3249 A2 3290 B2 3612 A2 3709 A5 3817 B5 3838 B5 3C05 B4 3D02 C7 3E02 C4 3E43 C4 3G14 D3 3G43 D6 3K03 B1 4102 C2 5904 C5 7L08 B3
2101 C1 2227 A2 2610 A2 2750 A5 2814 B6 2913 B5 2933 C5 2956 C5 2C01 B5 2D35 C7 2E39 C5 2G26 D5 2K10 B1 2L07 B4 2L39 B3 2N14 A7 2P13 A6 2P33 A7 3117 C2 3212 B2 3250 A3 3296 A2 3615 B1 3712 A4 3818 B5 3839 C6 3C06 B4 3D03 D7 3E24 C5 3E44 C5 3G15 D3 3G44 D5 3K04 B1 4103 C2 5905 B6 7M00 C4
2102 C1 2239 A3 2612 A2 2751 A6 2816 C5 2914 C6 2935 C5 2957 C5 2C02 B5 2D36 C7 2G01 D4 2G28 D4 2K11 B1 2L08 B4 2M24 C3 2N15 A7 2P14 A6 2P34 A7 3118 C2 3213 B2 3251 A3 3431 A1 3616 A2 3713 A4 3820 C6 3840 C6 3C07 B4 3D04 D7 3E25 C5 3E45 C5 3G16 D3 3G45 D6 3K06 B1 4104 C2 5906 B6 7M01 C4
2103 C2 2252 B3 2613 A1 2759 A5 2817 C5 2915 C6 2936 C5 2958 C5 2C03 B5 2D37 C7 2G02 D4 2G45 D4 2K12 B1 2L09 B4 2M25 C4 2N16 A6 2P16 A6 2P35 A7 3119 C2 3218 B2 3252 A3 3432 A1 3617 A1 3716 A5 3822 C6 3841 B6 3C08 B4 3D11 C7 3E26 C5 3E46 C4 3G17 D3 3G46 D5 3K07 B1 4105 C2 5907 B6 7M17 B4
2104 D1 2253 B2 2614 A2 2760 A5 2818 C5 2916 C6 2937 C5 2959 C5 2D00 C7 2D39 C7 2G03 D3 2G46 D4 2K13 B1 2L10 B3 2M26 C3 2N17 A7 2P17 A6 3101 D1 3120 D2 3219 B2 3253 A3 3451 B3 3618 A1 3732 A3 3823 C6 3900 B6 3C09 B4 3D19 C7 3E27 C5 3E49 C4 3G26 D3 3G47 D5 3K08 B1 4106 C2 5908 B7 7N01 A6
2105 D1 2254 B2 2616 A1 2761 A5 2819 C5 2918 C5 2938 C5 2A03 C6 2D01 D7 2D40 C7 2G04 D3 2G48 D6 2K14 B1 2L11 B4 2M65 B4 2N18 A7 2P18 A6 3102 D1 3121 D2 3220 B2 3254 A2 3453 B3 3619 A1 3733 A3 3824 C5 3901 B5 3C10 B4 3D21 C7 3E28 C5 3E51 D4 3G27 D3 3G48 D5 3K09 C1 4109 C2 5909 C5 7N03 A6
2106 C2 2273 A3 2617 A1 2762 A5 2820 C5 2919 C5 2939 C5 2B03 B7 2D02 D7 2D44 C7 2G05 D4 2G49 D5 2K15 B1 2L13 B3 2M67 B3 2N19 A7 2P19 A6 3103 D2 3122 D2 3228 B3 3255 B3 3454 B3 3620 A1 3735 A3 3825 B5 3902 B5 3C11 B4 3D22 C6 3E29 C5 3E54 D4 3G28 D3 3G51 D5 3K11 A1 4110 C2 5910 C5 7P01 A6
2107 C1 2280 A2 2619 A2 2801 B6 2821 C5 2920 C6 2941 C6 2B04 B7 2D08 C7 2D45 C7 2G06 D4 2G50 D6 2K16 C1 2L15 B3 2N01 A6 2N20 A7 2P20 A6 3104 D2 3123 D2 3229 A2 3256 A3 3455 B3 3621 A1 3736 A3 3826 B5 3903 B5 3C12 B5 3D23 C7 3E30 C5 3G00 D4 3G29 D3 3G52 D5 3K12 A1 4111 C2 5911 C6
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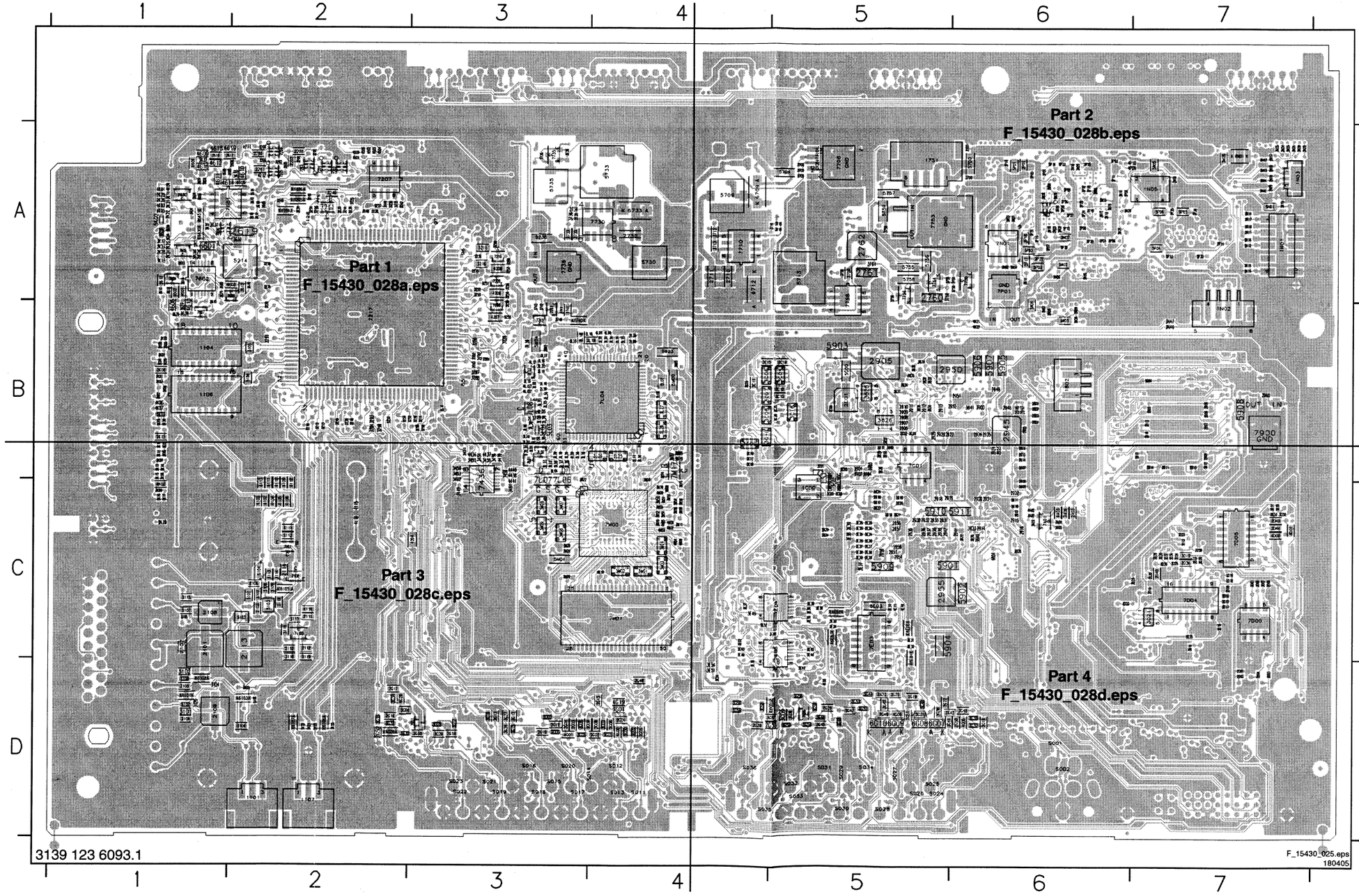

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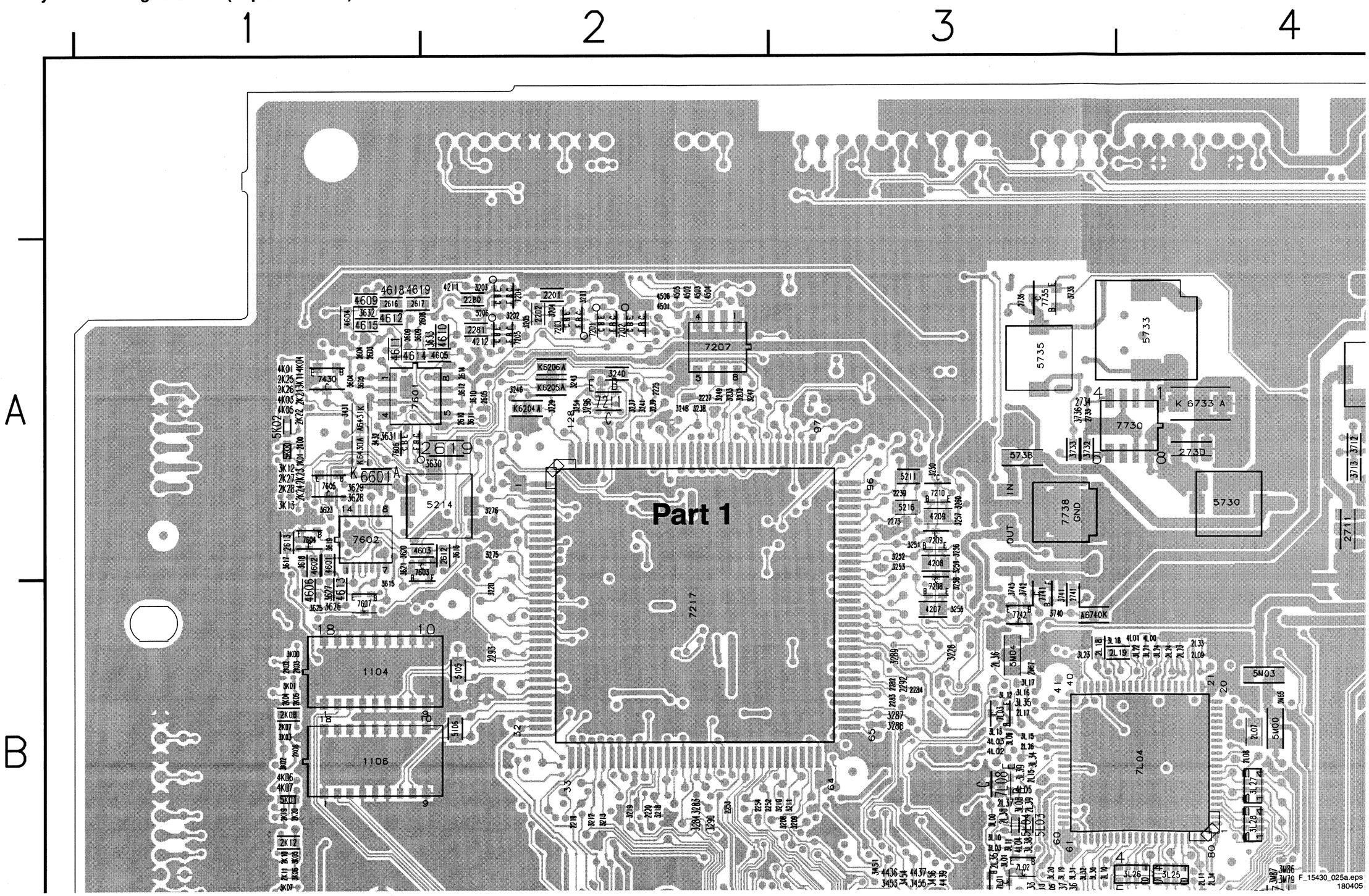
Layout Small Signal Board (Top Side Part 1)



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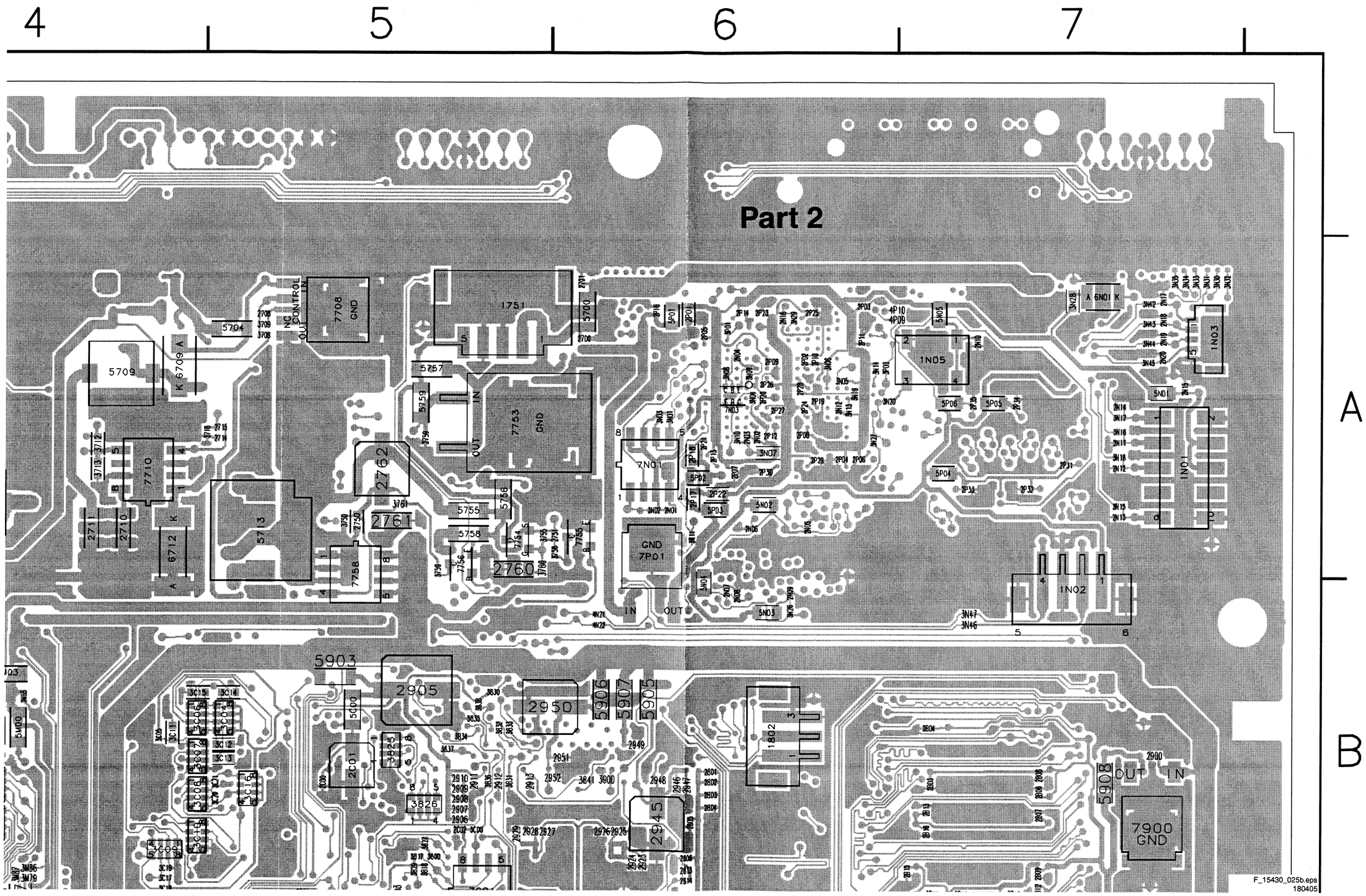
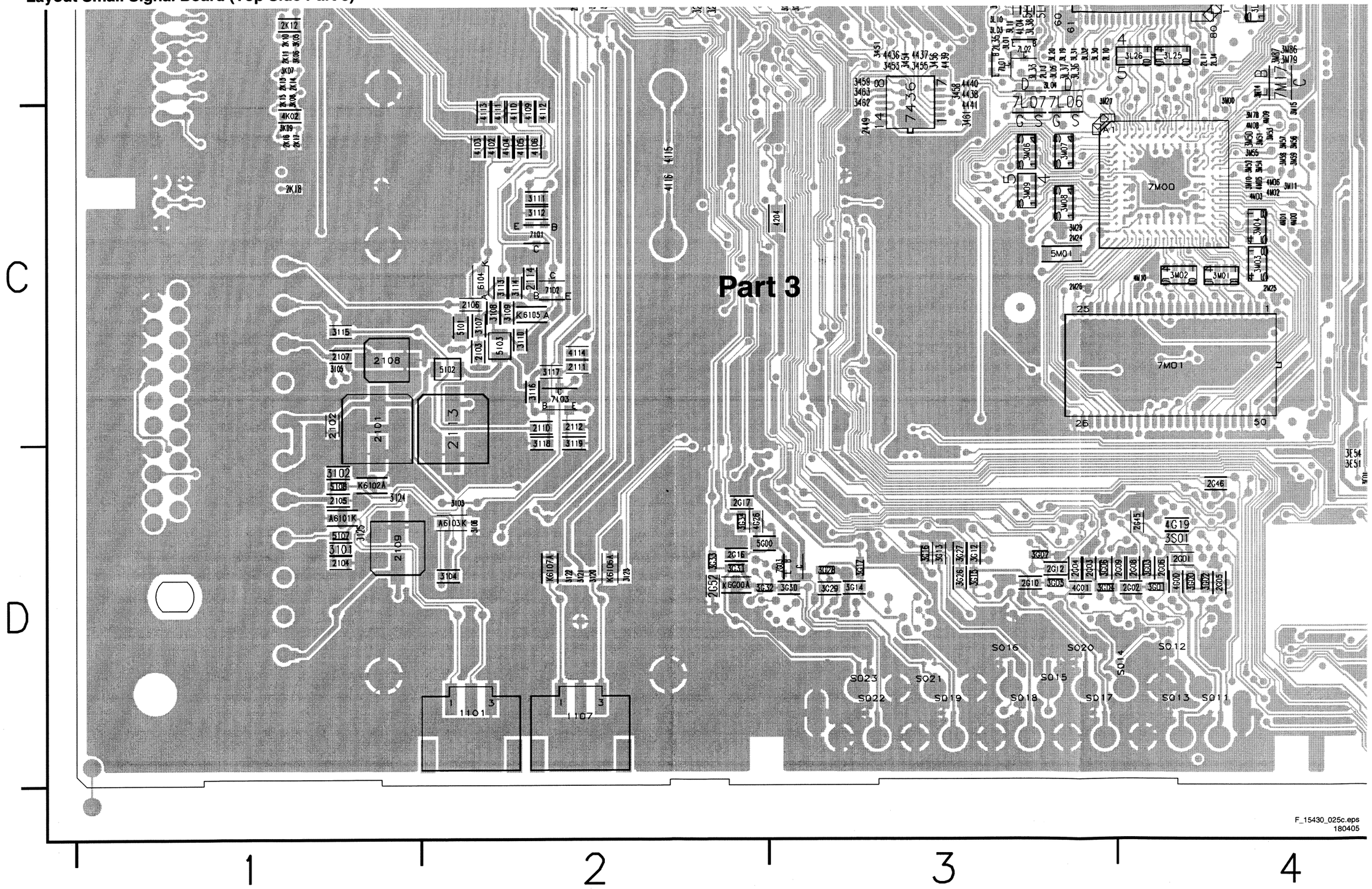
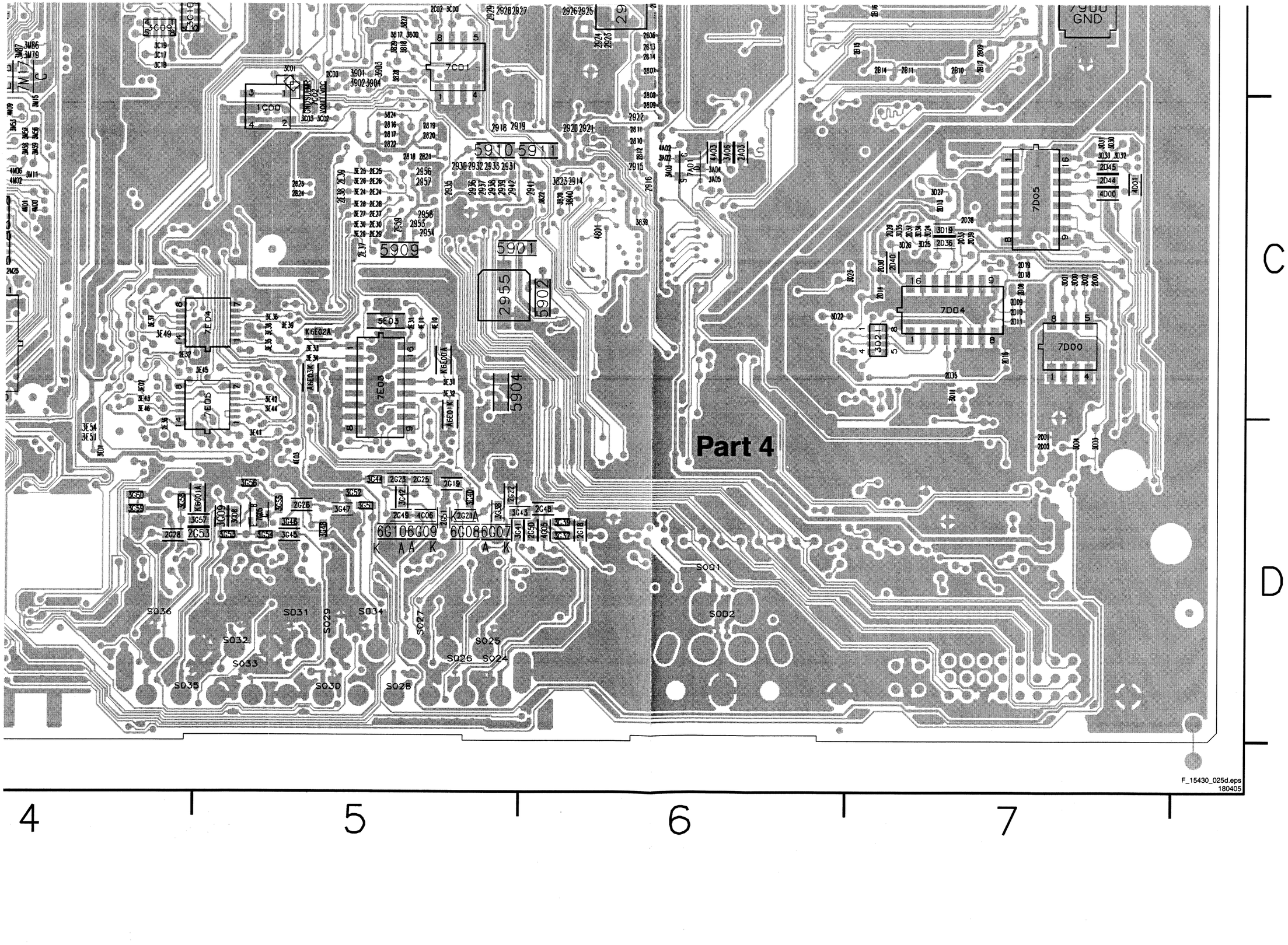


Layout Small Signal Board (Top Side Part 3)



Layout Small Signal Board (Top Side Part 4)



Layout Small Signal Board (Bottom Side Overview)

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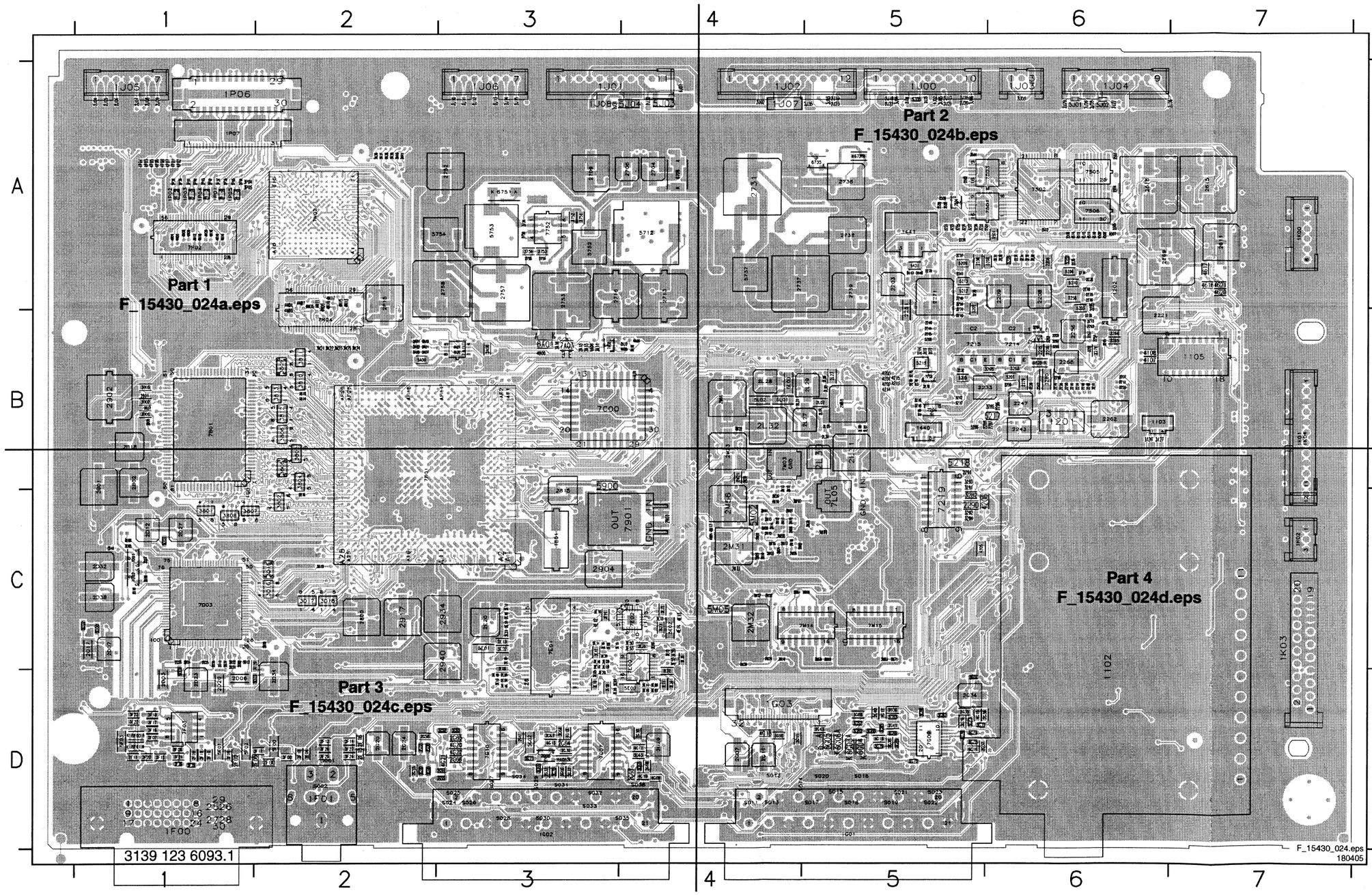
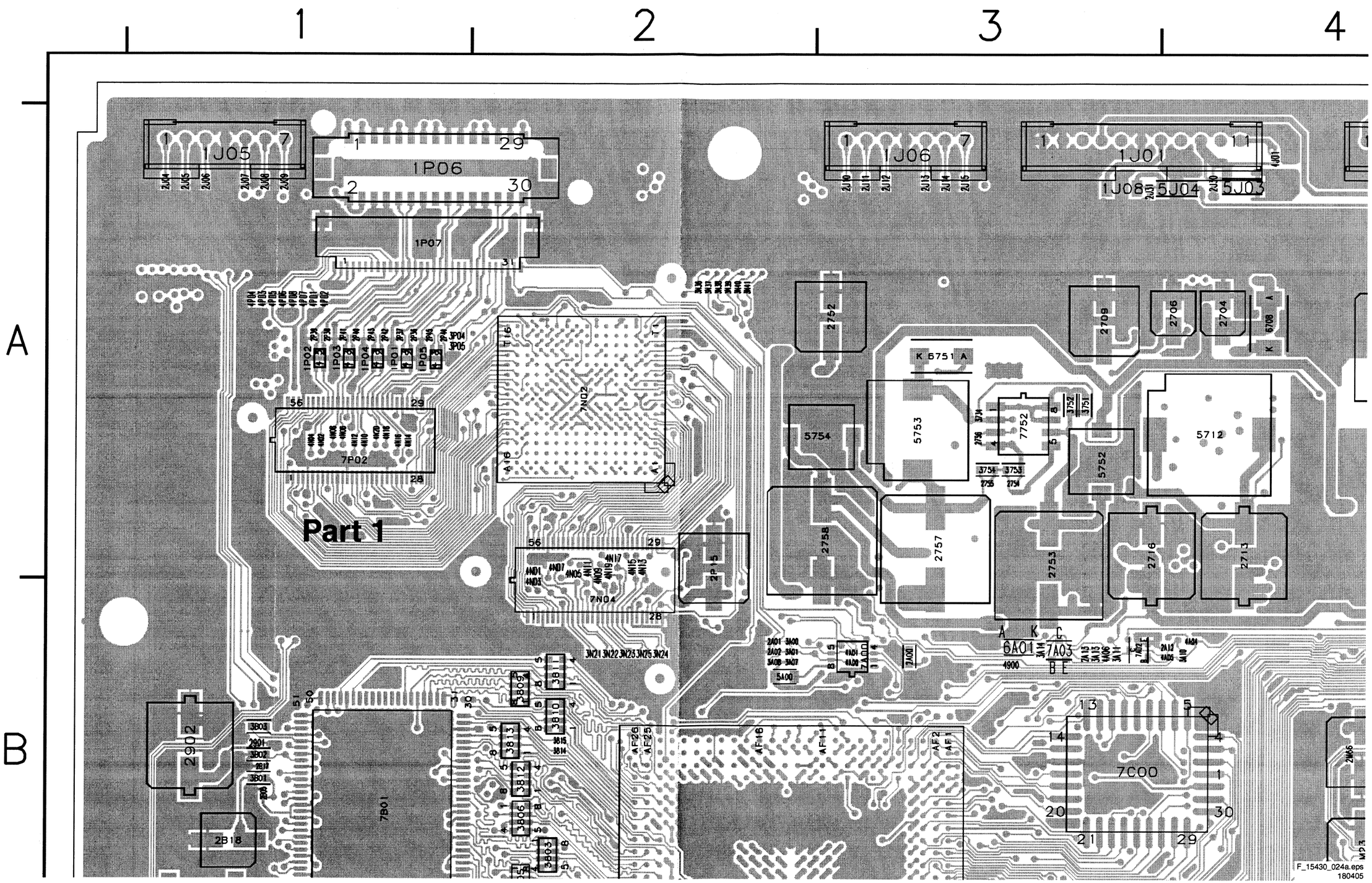
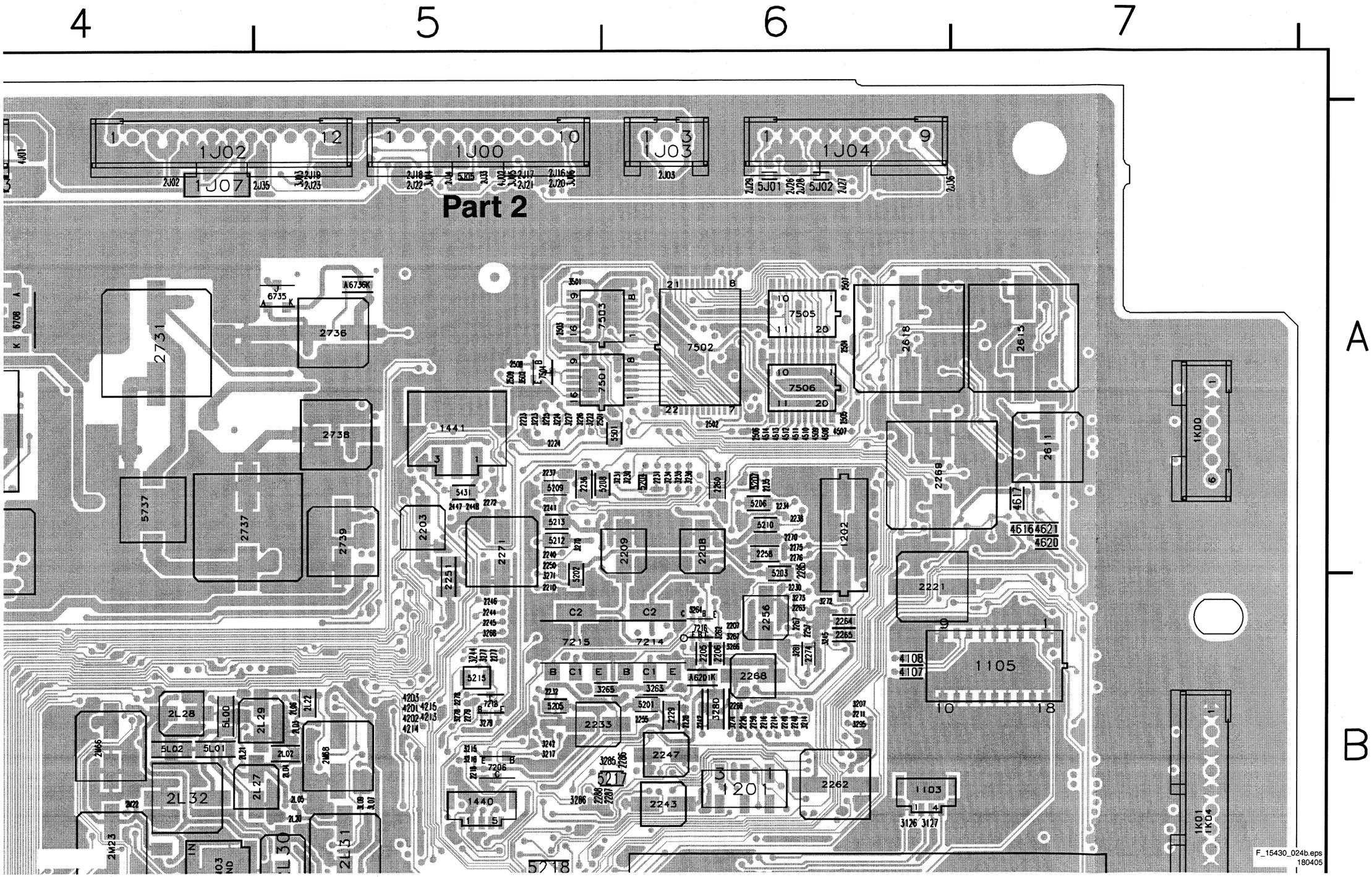


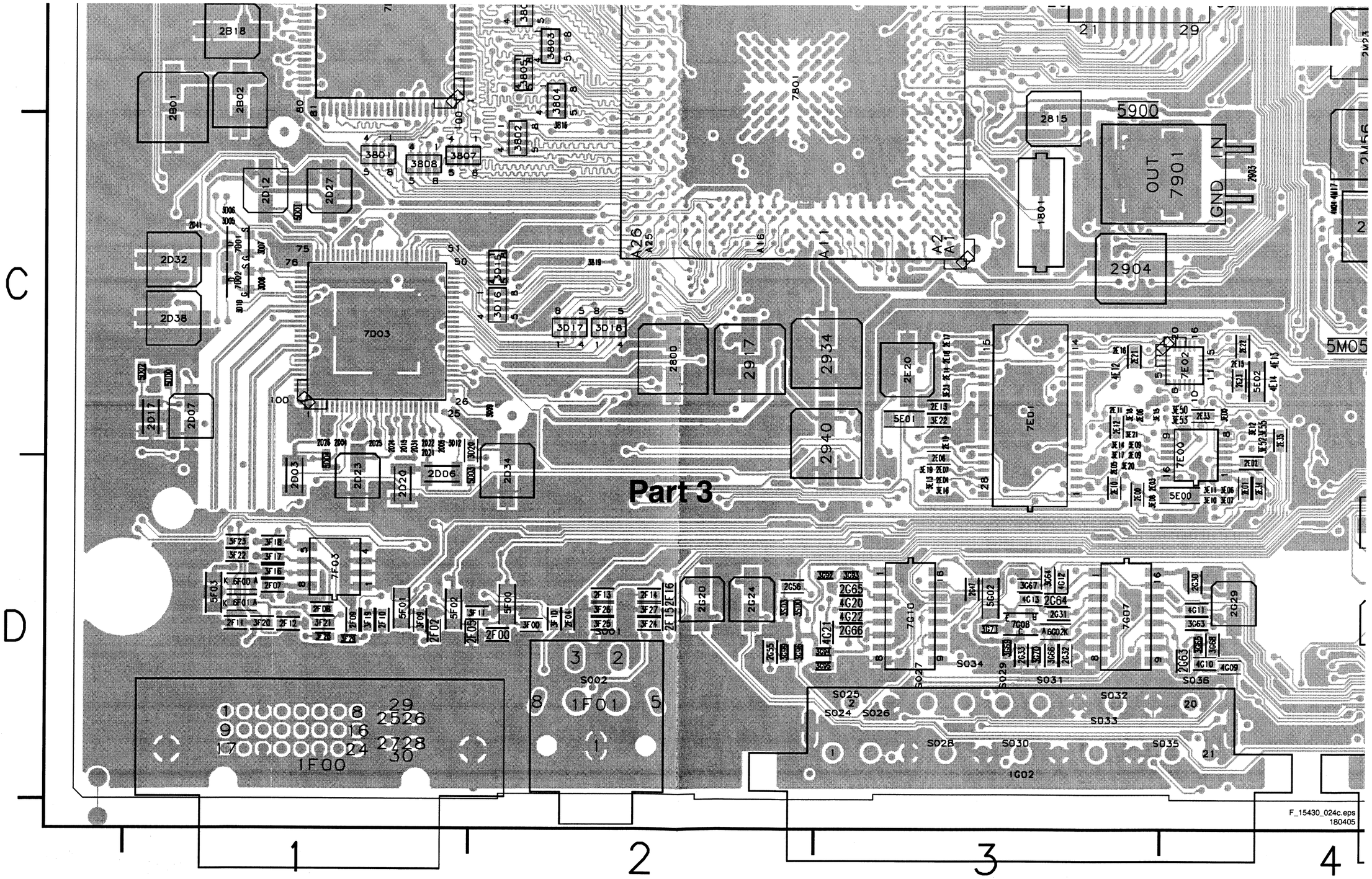
Layout Small Signal Board (Bottom Side Part 1)



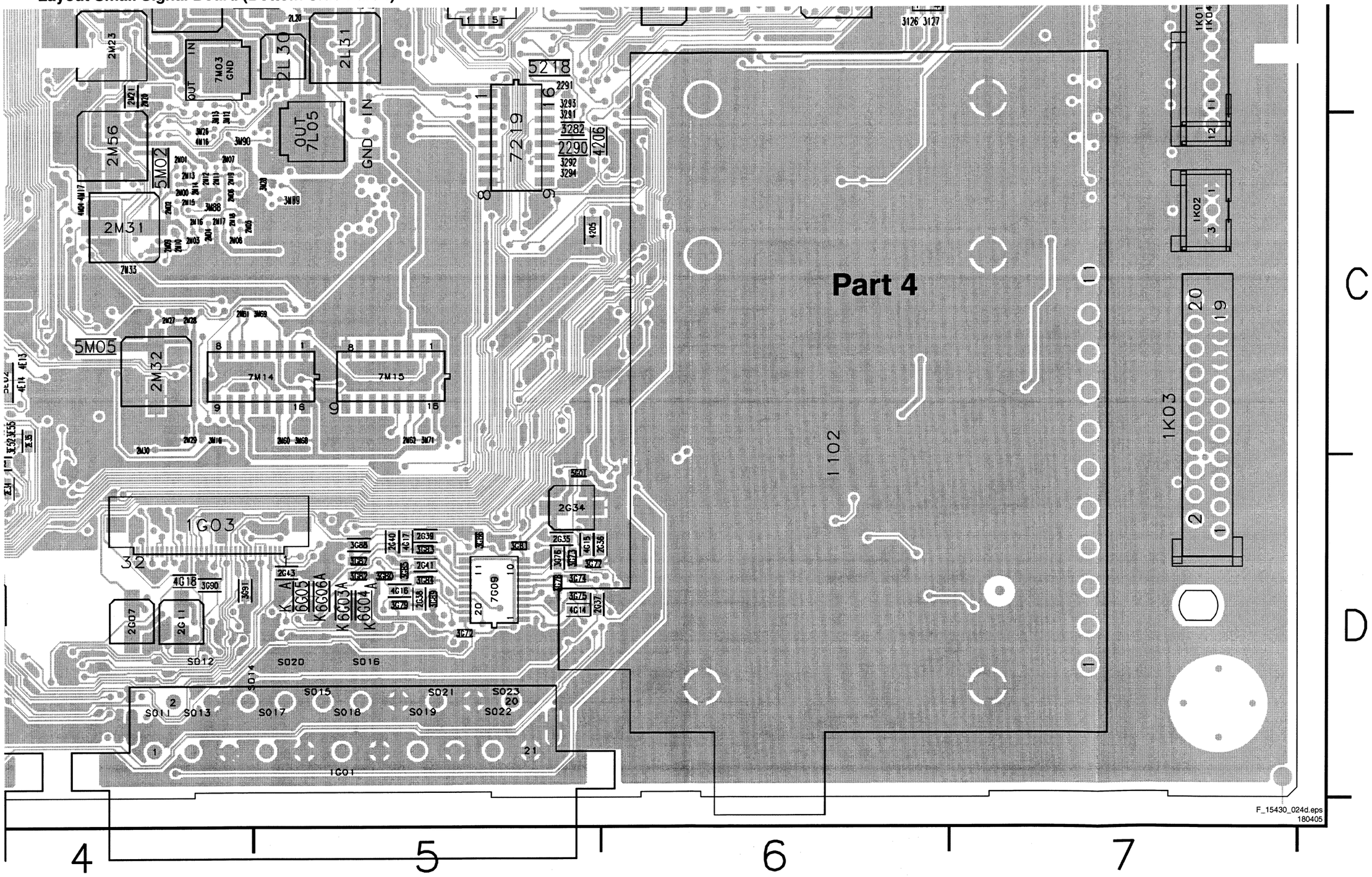
Layout Small Signal Board (Bottom Side Part 2)



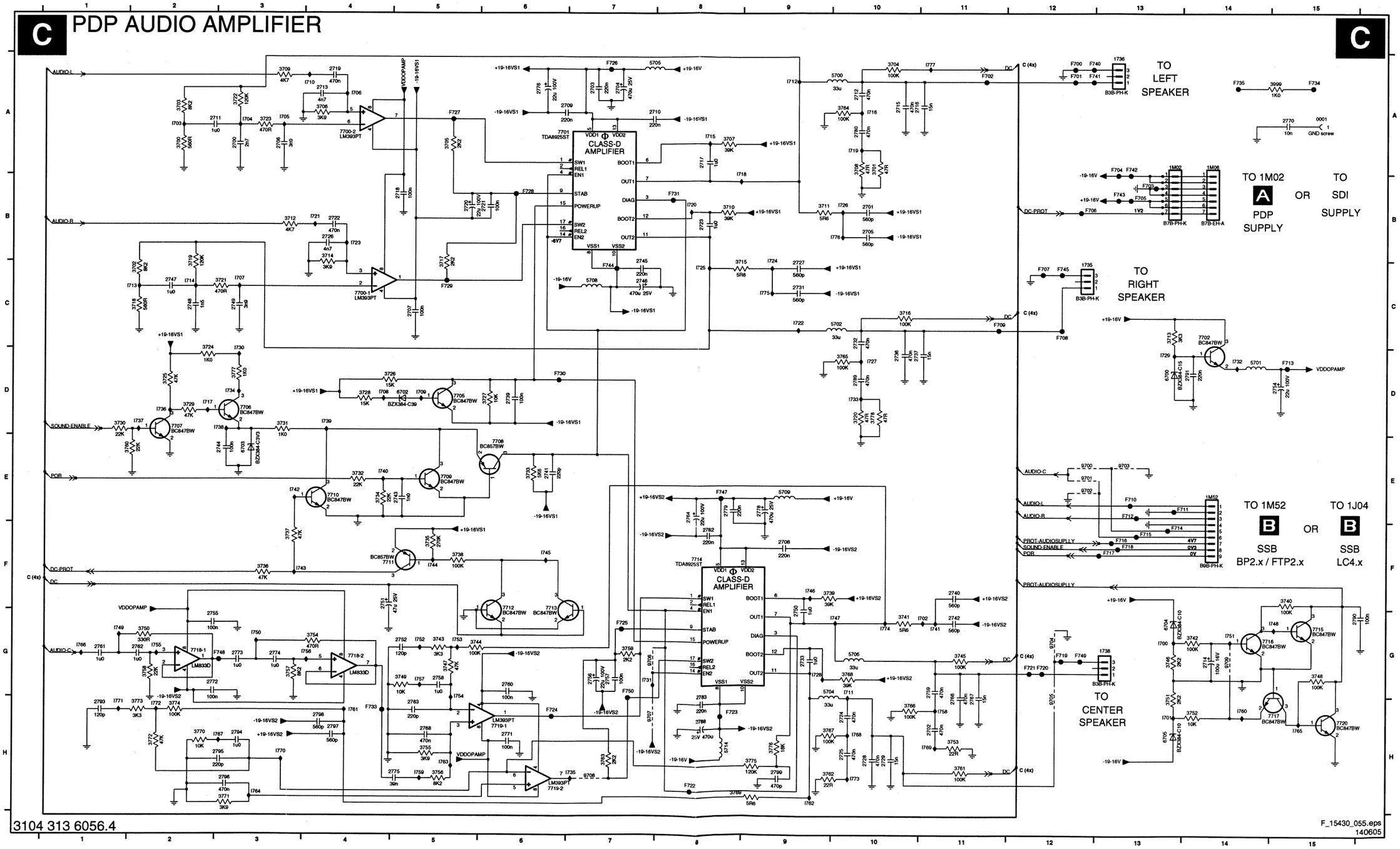
Layout Small Signal Board (Bottom Side Part 3)



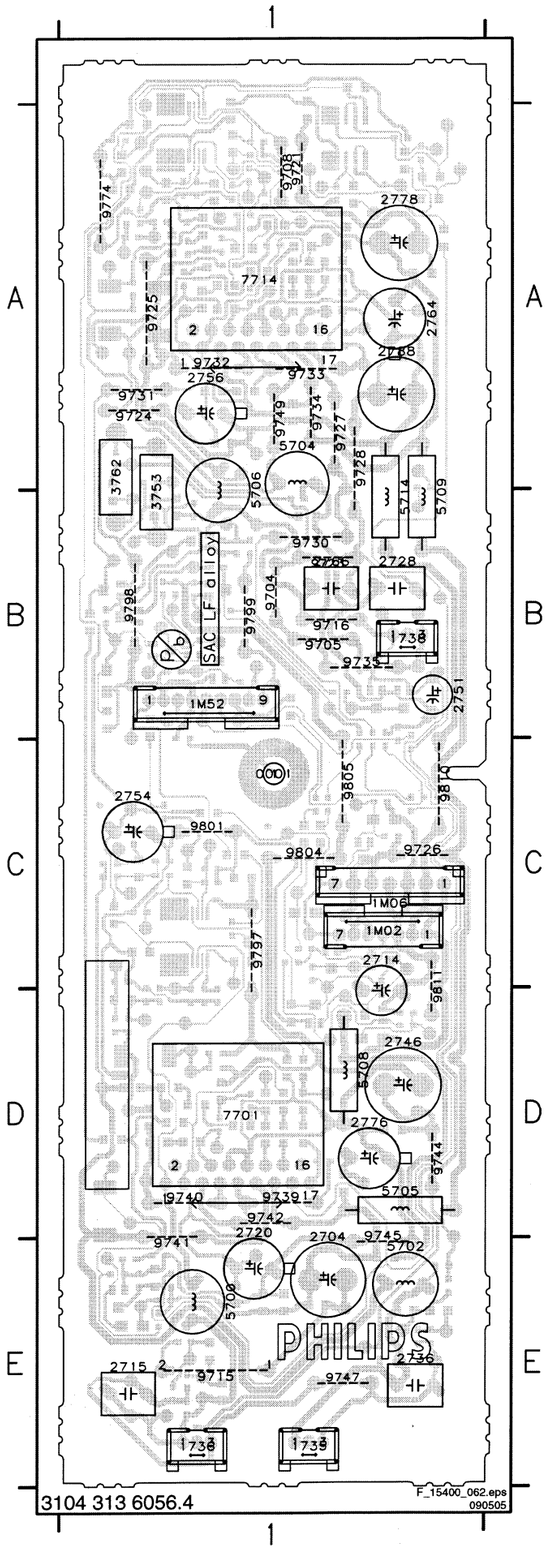
Layout Small Signal Board (Bottom Side Part 4)



PDP Audio Amplifier Panel



Layout PDP Audio Amplifier Panel (Top Side)



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1M06 C1
1M52 B1
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2728 B1
2736 E1
2746 D1
2751 B1
2754 C1
2756 A1
2764 A1
2766 B1
2776 D1
2778 A1
2788 A1
3753 B1
3762 A1
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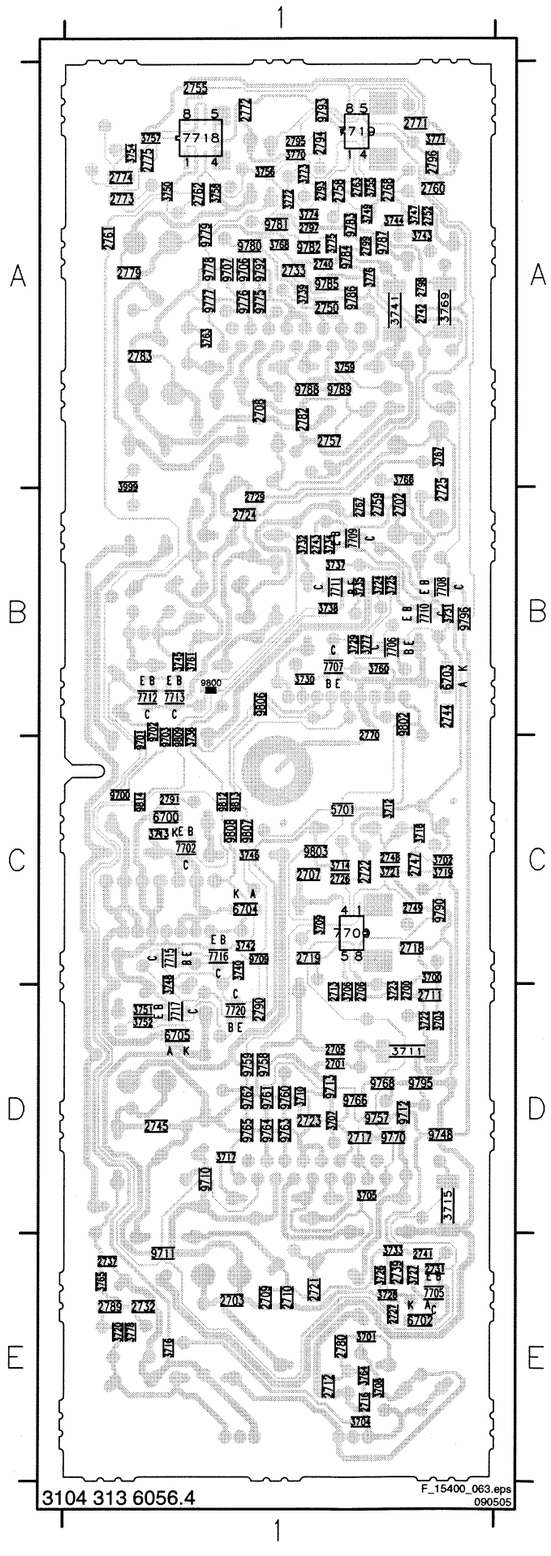
Layout PDP Audio Amplifier Panel (Bottom Side)



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2712 E1
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3709 C1
3710 D1
3711 D1
3712 C1
3713 C1
3714 C1
3715 D1
3716 E1
3717 D1
3718 C1
3719 C1
3720 E1
3721 C1
3722 D1
3723 D1
3724 B1
3725 B1
3726 E1
3727 E1
3728 E1
3729 B1
3730 B1
3731 B1
3732 B1
3733 E1
3734 B1
3735 B1
3736 C1
3737 B1
3738 B1
3739 A1
3740 C1
3741 A1
3742 C1
3743 A1
3744 A1
3745 B1
3746 C1
3747 A1
3748 D1
3749 A1
3750 A1
3751 D1
3752 D1
3754 A1
3755 A1
3756 A1
3757 A1
3758 A1
3759 A1
3760 B1
3761 B1
3763 A1
3764 E1
3765 E1
3766 A1
3767 A1
3768 A1
3769 A1
3770 A1
3771 A1
3772 A1
3773 A1
3774 A1
3775 A1
3776 A1
3777 B1
3778 E1
3999 A1
5701 C1
6700 C1
6702 E1
6703 B1
6704 C1
6705 D1
7700 C1
7702 C1
7705 E1
7706 B1
7707 B1
7708 B1
7709 B1
7710 B1
7711 B1
7712 B1
7713 B1
7715 C1
7716 C1
7717 D1
7718 A1
7719 A1
7720 D1
9700 C1
9701 C1
9702 B1
9703 C1
9706 A1
9707 A1
9709 C1
9710 D1
9711 E1
9712 D1
9713 D1
9748 D1
9757 D1
9758 D1
9759 D1
9760 D1
9761 D1
9762 D1
9763 D1
9764 D1
9765 D1
9766 D1
9768 D1
9770 D1
9775 A1
9776 A1
9777 A1
9778 A1
9779 A1
9780 A1
9781 A1
9782 A1
9783 A1
9784 A1
9785 A1
9786 A1
9787 A1
9788 A1
9789 A1
9790 C1
9792 A1
9793 A1
9795 D1
9796 B1
9800 B1
9801 C1
9802 B1
9803 C1
9806 B1
9807 C1
9808 C1
9809 C1
9812 C1
9813 C1
9814 C1

Side I/O Panel

D SIDE I/O

JAGUAR ONLY

TO 1H01 B6A VIPER

USB CONNECTOR

SVHS

CVBS

Y / CVBS

L

R

HEADPHONE-OUT

TO 1M36 B21 SSB EMGT OR TO 1M36 H SCART 3 EMGT OR TO 1M36 B10 SSB JAGUAR

SOUND L-HEADPHONE-OUT

SOUND R-HEADPHONE-OUT

DETECT

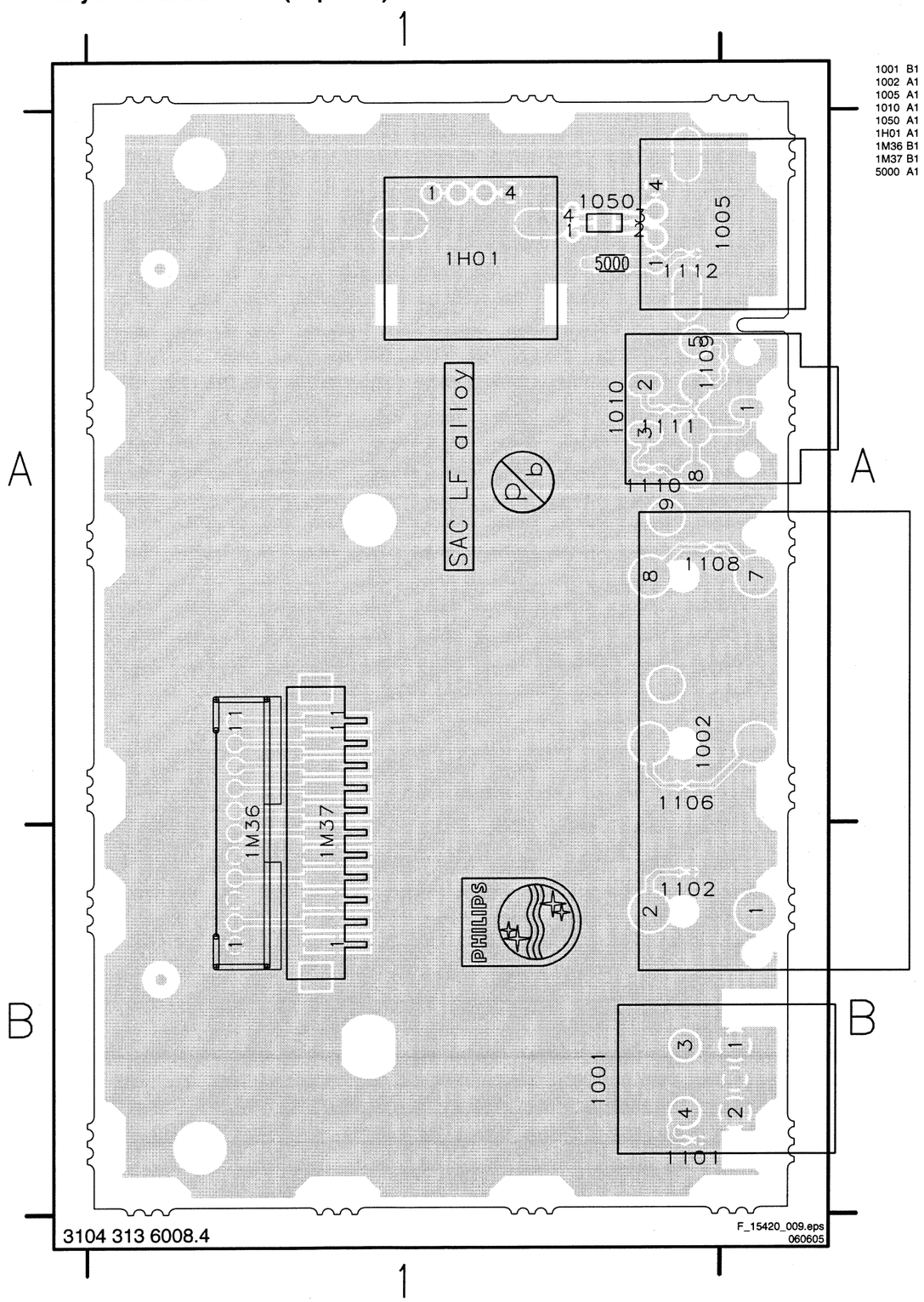
B11B-PH-SM3-TBT

3104 313 6008.4

F_15420_008.eps 030605

1001	B2	F002	A2
1002-1	B1	F003	B2
1002-2	C1	F004	C2
1002-3	D1	F005	C2
1005	A8	F006	D2
1010	E1	F007	E2
1050	A7	F008	E2
1101	A3	F009	E2
1102	B3	F010	F8
1106	C3	F011	F9
1108	D3	F012	A6
1109	E3	F013	A7
1110	F3	F014	A6
1111	E3	F015	A7
1112	A7	F016	A6
1H01	A6	F017	A7
1M36	B8	F018	F7
1M37	B8	F019	F2
2003	C5	F020	B4
2004	C3	F021	C6
2005	C4	F022	C6
2006	D3	F023	C6
2007	D4	F024	E6
2008	F2	F025	E6
2009	F5	I001	C2
2010	E2	I002	C3
2011	E5	I003	D2
3000	A4	I004	A3
3004	B3	I005	F4
3008	C5	I006	F4
3009	C4	I007	E4
3010	C4	I008	E4
3011	C5	I009	B3
3012	D4	I010	D3
3013	D4	I011	F7
3016	F5	I012	F8
3020	E5	I013	F3
3999	F9	I014	E3
5000	A7		
6000	A3		
6001	A3		
6002	B3		
6003	B3		
6004	C3		
6005	C3		
6006	D3		
6007	D3		
6008	F3		
6009	F3		
6010	E3		
6011	F3		
9003	C6		
9004	C2		
9005	D2		
9006	F7		
9007	F8		
9008	F4		
9009	F4		
9010	E4		
9011	E4		
F001	A2		

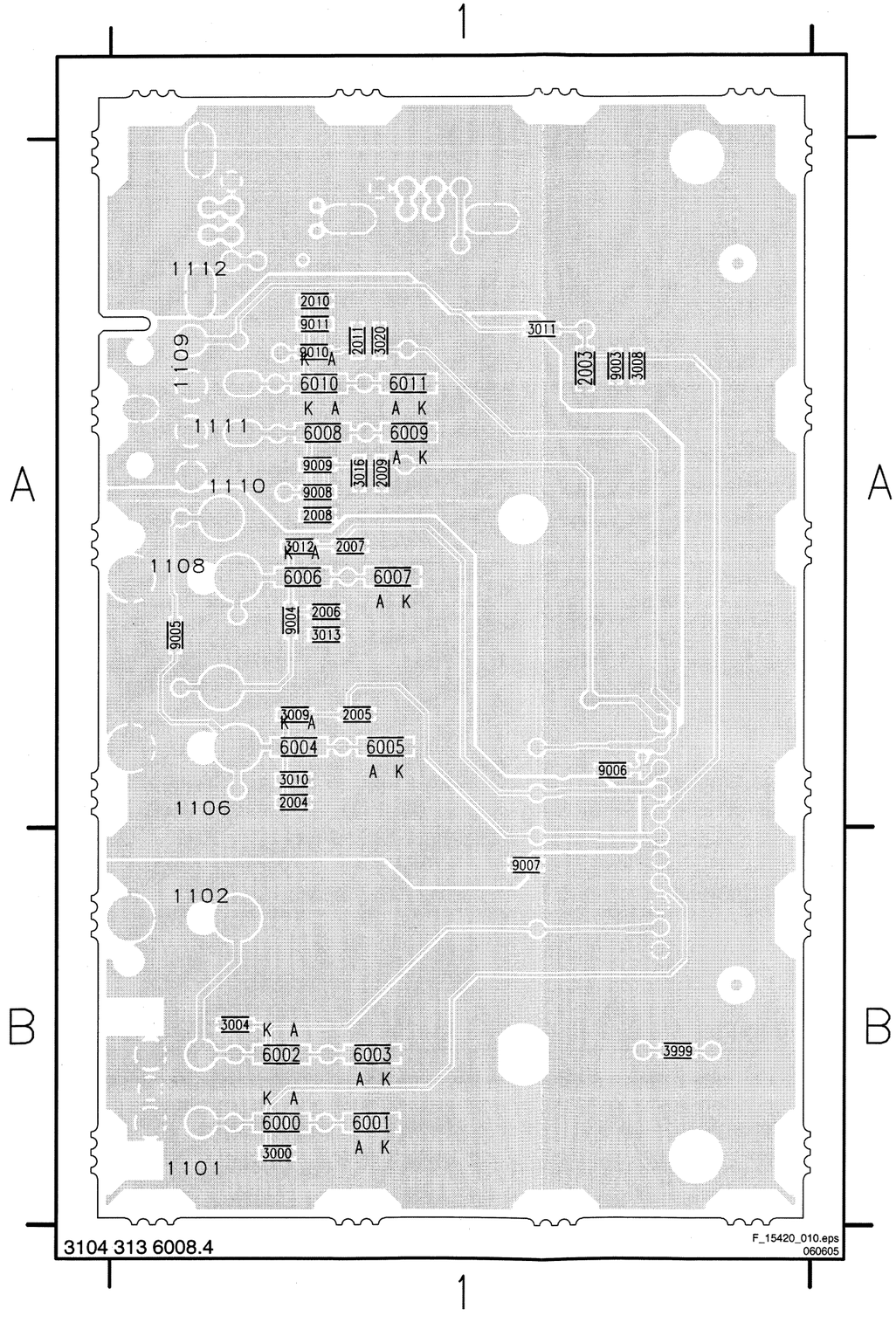
Layout Side I/O Panel (Top Side)



3104 313 6008.4

F_15420_009.eps
060605

Layout Side I/O Panel (Bottom Side)

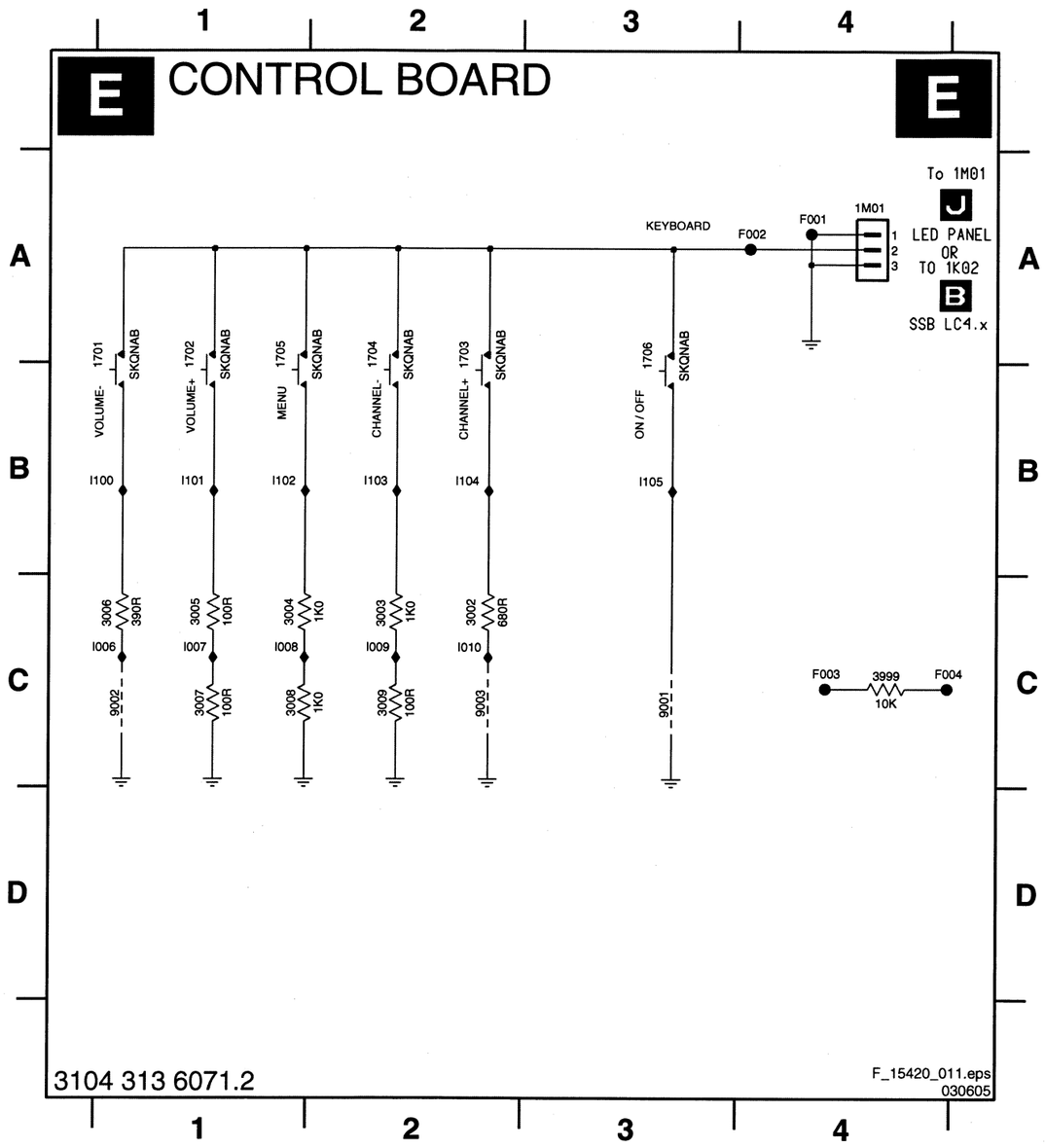


3104 313 6008.4

F_15420_010.eps
060605

Control Board

1701 A1	1704 A2	1M01 A4	3004 C1	3007 C1	3999 C4	9003 C2	F003 C4	I007 C1	I010 C2	I102 B1	I105 B3
1702 A1	1705 A1	3002 C2	3005 C1	3008 C1	9001 C3	F001 A4	F004 C4	I008 C1	I100 B1	I103 B2	
1703 A2	1706 A3	3003 C2	3006 C1	3009 C2	9002 C1	F002 A4	I006 C1	I009 C2	I101 B1	I104 B2	

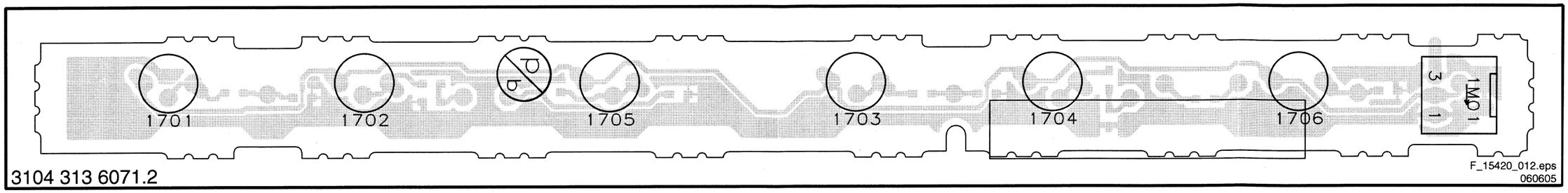


Personal Notes:

E_06532_012.eps
131004

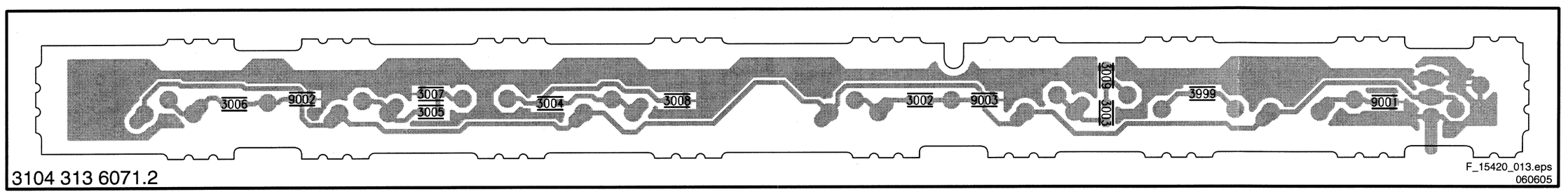
Layout Control Board (Top Side)

1701 -- 1702 -- 1703 -- 1704 -- 1705 -- 1706 -- 1M01 --



Layout Control Board (Bottom Side)

3002 -- 3003 -- 3004 -- 3005 -- 3006 -- 3007 -- 3008 -- 3009 -- 3999 -- 9001 -- 9002 -- 9003 --



LED Panel

LED PANEL

"BLUE" or "GREEN"

"RED"

"LED DIMMING"

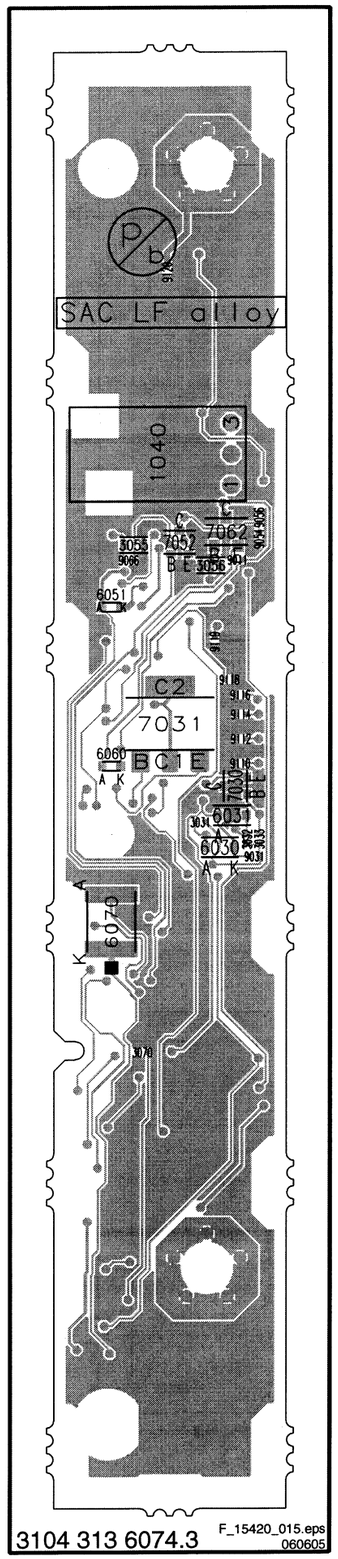
"IR RECEIVER"

"LIGHT SENSOR"

F_15420_014.eps 030605

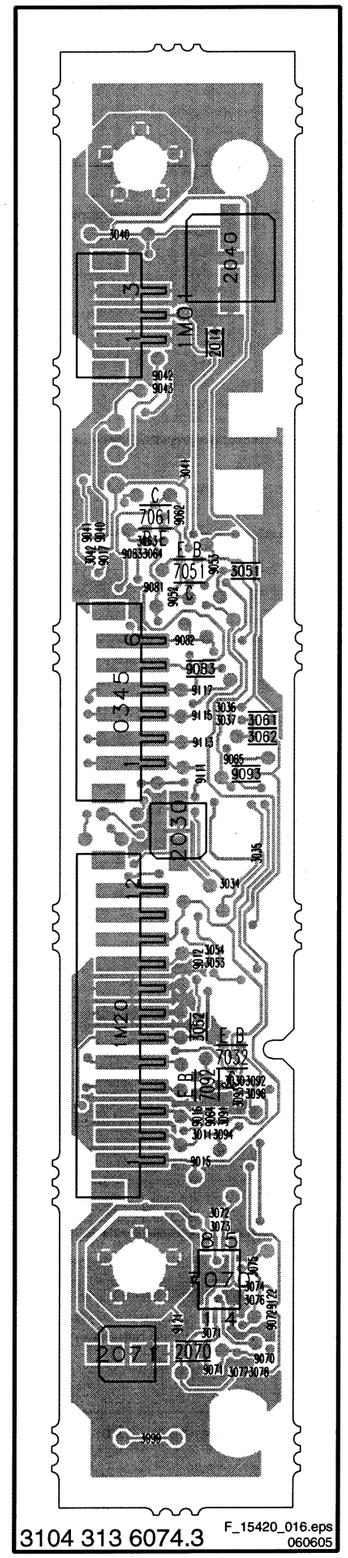
0001 A10 9119 E2
0002 A11 9120 B10
0345 D2 9121 B11
1040 F9 9122 F11
1M01 C2 F010 A3
1M20 A2 F011 A3
2014 C4 F012 A3
2030 G5 F013 B3
2040 F9 F014 B3
2070 F12 F015 A3
2071 G12 F016 B3
3011 A4 F017 B3
3030 G4 F018 B2
3031 G5 F021 C3
3032 G5 F038 B12
3033 G5 F039 B12
3034 G6 F083 D3
3035 G6 F084 D3
3036 G7 F086 E3
3037 G7 F089 E3
3040 F9 I010 F2
3041 G9 I011 G2
3042 F9 I012 E3
3051 B8 I013 E4
3052 B8 I026 F12
3053 C8 I033 G4
3054 C8 I037 G7
3055 C8 I038 G6
3056 D6 I039 G4
3061 B6 I040 G5
3062 B6 I041 G9
3063 D5 I042 G9
3064 D5 I043 F9
3070 G11 I044 F9
3071 F12 I045 F9
3072 G13 I046 E9
3073 G13 I047 G4
3074 F13 I048 G5
3075 F14 I049 G7
3076 G14 I051 D8
3077 G12 I052 C8
3078 G11 I053 B9
3091 G2 I054 D7
3092 F2 I061 D6
3093 F3 I062 C6
3094 F2 I063 D7
3096 G3 I064 D5
3999 B12 I065 C9
6030 G4 I071 F11
6031 G4 I072 F14
6051 C8 I073 G12
6060 C6 I074 G12
6070 G11 I075 F12
7030 G6 I076 F13
7031 G7 I093 F2
7032 G4 I094 F3
7051 C8 I095 C6
7052 D8
7061 D6
7062 C6
7070-1 F12
7070-2 G13
7092 F2
9011 C6
9012 B4
9015 A4
9016 A4
9017 A4
9031 G4
9040 G9
9041 F9
9042 G9
9043 F9
9052 C9
9053 C8
9054 D9
9056 D7
9062 D7
9063 D6
9064 B7
9065 B7
9066 D7
9070 F11
9071 F11
9072 G11
9081 E4
9082 E3
9083 D3
9093 G2
9110 D2
9111 D4
9112 D2
9113 D4
9114 E2
9115 E4
9116 E2
9117 E4
9118 E2

Layout LED Panel



1040 --
3031 --
3032 --
3033 --
3055 --
3056 --
3070 --
6030 --
6031 --
6051 --
6060 --
6070 --
7030 --
7031 --
7052 --
7062 --
9011 --
9031 --
9054 --
9056 --
9066 --
9110 --
9112 --
9114 --
9116 --
9118 --
9119 --
9120 --

3104 313 6074.3 F_15420_015.eps 060605



0345 --
1M01 --
1M20 --
2014 --
2030 --
2040 --
2070 --
2071 --
3011 --
3030 --
3034 --
3035 --
3036 --
3037 --
3040 --
3041 --
3042 --
3051 --
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3054 --
3061 --
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3078 --
3091 --
3092 --
3093 --
3094 --
3096 --
3999 --
7032 --
7051 --
7061 --
7070 --
7092 --
9012 --
9015 --
9016 --
9017 --
9040 --
9041 --
9042 --
9043 --
9052 --
9053 --
9062 --
9063 --
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9065 --
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9071 --
9072 --
9081 --
9082 --
9083 --
9093 --
9111 --
9113 --
9115 --
9117 --
9121 --
9122 --

3104 313 6074.3 F_15420_016.eps 060605

Personal Notes:

E_06532_012.eps 131004

IBO Zapper: Mojo

K1 MOJO

FOR DEV. ONLY

FOR DEV. ONLY

(JTAG-ETAG-SYS)

(TS)

(AV)

(I2C-USB-SCO)

(PWR)

(GPIO)

(SDRAM)

(MIU)

K7 TS_DATA(0) K7 TS_DATA(1) K7 TS_DATA(2) K7 TS_DATA(3) K7 TS_DATA(4) K7 TS_DATA(5) K7 TS_DATA(6) K7 TS_DATA(7)

TS_SYNC TS_STROBE TS_VAL TS_CLK TS_VALID

K5 MOJO I2S OUT SD K5 MOJO I2S OUT SCK K5 MOJO I2S OUT WS K4 SPDIF K5 MOJO SYSCLK

K2, K6, K7 I2C_LOCAL_SCL K2, K6, K7 I2C_LOCAL_SDA K5 I2C_TV_SCL K5 I2C_TV_SDA

K4 USB_OVRCUR K4 USB_PWR K4 USB_DM K4 USB_DP

K1, K2, k7 MIU_WEN K2 NOR_RYBY K2, K3 RESET_n K6 4MHz_MOJO

MOJO_TRST MOJO_TDI 10046_TDO MOJO_TMS MOJO_TCK RESET_n PCST0_0 PCST0_1 PCST0_2 DSU_CLK

JTAG_TCK JTAG_TRST JTAG_TMS STV_TDI 10046_TDO

K6 RESET_FE_n K7 RESET_STV K2 user_EEPROM_WP K6 dsp_EEPROM_WP K6 FE_LOCK K2 NOR_RYBY K2 NOR_WP K7 STV_INT K7 STV_A25 RS232_DSR CTSN0 RTSN0 K4 RXD0 K4 TXD0 DCD0

UART1_RX UART1_TX PIO19|ITU_OUT0|BOOT0 PIO20|ITU_OUT1|BOOT1 PIO21|ITU_OUT2|BOOT2 PIO22|ITU_OUT3|BOOT3 ITU_OUT ITU_CLOCK PIO <16:27> PIO <0:15>

DSW_n DSW_I2C_enable TV_IRQ

K2, K7 MIU_DATA(0) K2, K7 MIU_DATA(1) K2, K7 MIU_DATA(2) K2, K7 MIU_DATA(3) K2, K7 MIU_DATA(4) K2, K7 MIU_DATA(5) K2, K7 MIU_DATA(6) K2, K7 MIU_DATA(7) K2 MIU_DATA(8) K2 MIU_DATA(9) K2 MIU_DATA(10) K2 MIU_DATA(11) K2 MIU_DATA(12) K2 MIU_DATA(13) K2 MIU_DATA(14) K2 MIU_DATA(15)

K7 MIU_RDY K2 NOR_CS K7 STV_CS K2, K7 MIU_OEN K2, K7 MIU_WEN

MIU_ADDR(0) K2, K7 … MIU_ADDR(24) K2, K7

SDRAM_ADDR(0) K2 … SDRAM_CLK K2

F_15270_054.eps 190505

3139 123 5906.2

1100-1 D8 1100-2 D8 1101 B9 1106 D14 2100 F6 2101 F6 2102 G6 2103 G6 2104 G6 2105 G6 2106 G6 2107 G6 2108 H6 2109 H6 2110 H6 2111 H6 2112 F6 2113 F6 2114 F6 2115 G6 2116 G6 2119 H9 2120 H9 2121 H9 2122 C8 2130 I7 2131 I7 2132 H7 2133 C5 3100 A4 3101 E6 3112 E9 3113 C7 3114 A3 3115 A4 3116 A4 3117 A4 3119 A4 3120 E5 3121 E5 3122 E6 3123 E6 3124 E6 3125 E6 3126 E6 3127 E6 3128 E14 3129 F14 3130 E14 3131 E14 3132 F14 3133 G1 3134 G1 3135 F1 3136 E14 3137 F14 3138 A3 3139 C6 3140 I9 3141 D14 3142 G1 3143 G4 3144 H4 3145 H2 3146 H4 3147 H4 3148 I2 3149 I3 3150 I3 3151 F13 3154 G13 3155 G14 3156-1 G11 3156-2 H11 3156-3 G11 3156-4 H11 3157-1 G11 3157-2 H11 3157-3 G11 3157-4 H11 3158-1 G11 3158-2 H11 3158-3 G11 3158-4 H11 3159-1 G11 3159-2 H11 3159-3 H11 3159-4 H11 3160 I11 3161 I11 3162 I11 3163 G11 3164 G1 4100 H3 4101 H2 4102 A4 4104 A4 4105 B7 4106 B7 4107 B7 4108 F14 4109 C7 4110 B7 5100 I7 5101 F5 5102 F5 5103 C5 7100-1 F8 7100-2 E2 7100-3 F2 7100-4 A12 7100-5 G12 7100-6 H5 7100-7 D12 7100-8 D7 7103 H3

7104 H2 7105 F13 7105 F13 7106 A7 7107 A7 7108 A7 7109 A7 7110 A7 7111 A7 7112 A7 7113 A7 7114 A7 7122 E9 7125 B6 7129 E13 7131 E13 7132 F13 7133 G3 7134 H3 7135 H2 7136 H2 7137 F14 7138 A10 I100 H4 I101 H4 I103 F13 I104 E6 I105 I9

IBO Zapper: Flash Memory

K2 FLASH MEMORY

K2

EPROM 4Mx8/2Mx16

2/4/8MB NOR FLASH

Φ SYNC DRAM 4x2Mx16

Φ (8Kx8) EEPROM SYSTEM EEPROM

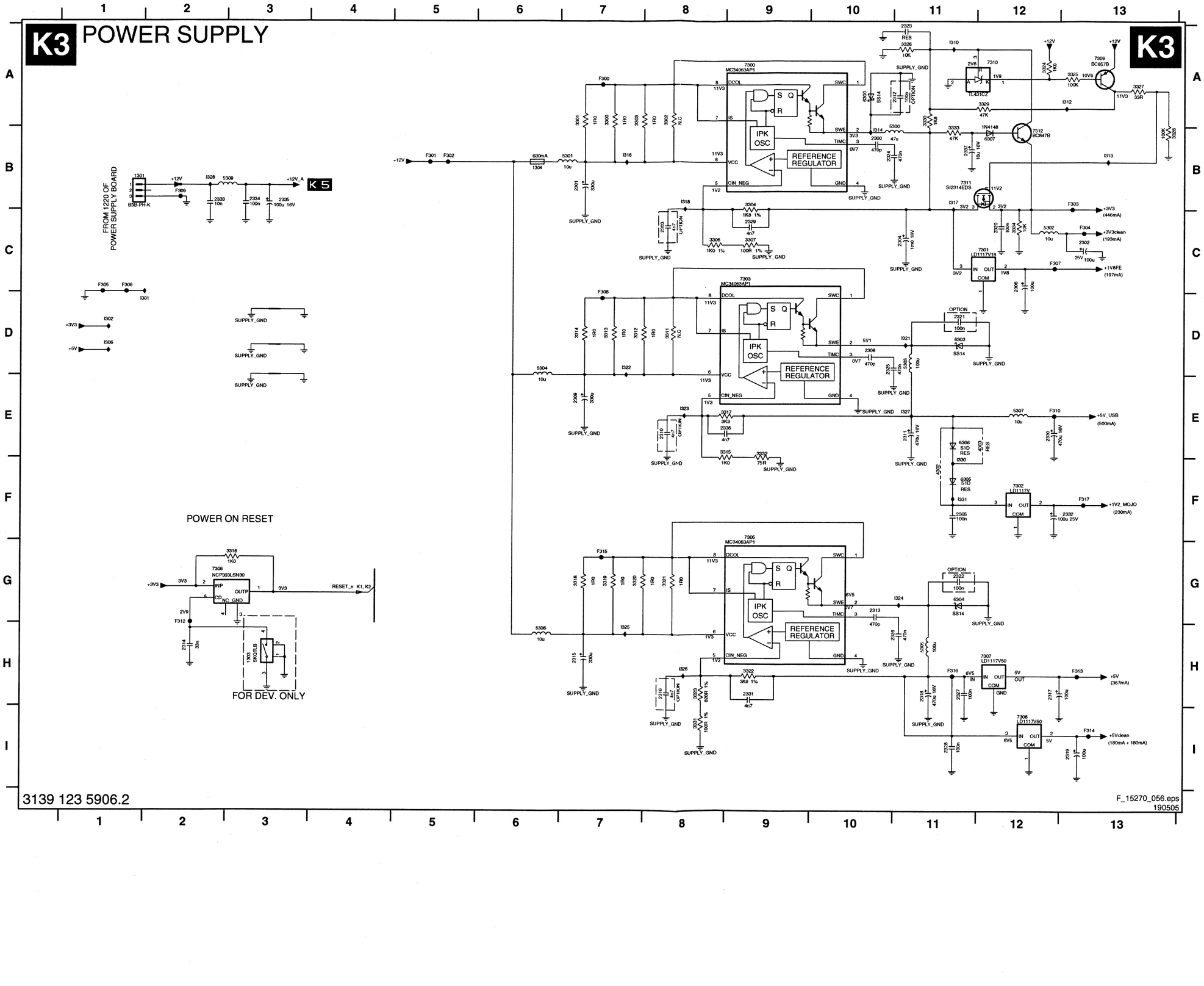
MECHANICAL 3.5MM HOLE

0001 H1
0002 H1
0003 H2
0004 H2
0005 H3
0006 H4
0007 H4
0008 H5
0009 H5
0010 H6
0011 H6
0012 G7
0013 G8
0014 G9
0015 G9
0016 G10
0017 G10
0018 G11
2200 A13
2201 A12
2202 A13
2203 A8
2204 A9
2205 B13
2206 D5
2207 E4
2208 E4
2209 E4
2210 E4
2211 E4
2212 E4
2213 E4
2214 F11
3200 D6
3201 D14
3202 D13
3203 E11
3204 E12
3205 D9
3206 F12
3207 F13
3209 F13
3210 F13
3211 F12
3212 C11
4200 D7
4201 D7
4202 C7
4203 D7
4204 D7
4205 C9
4212 F13
4213 D13
4214 D11
4215 D9
5200 A12
5201 A8
5202 D3
5203 E11
7200 B8
7201 B12
7202 E3
7203 F11
F200 F12
F201 D6
I200 A12
I201 A8
I202 D4
I203 C12
I204 D7
I205 D6
I206 D9
I207 F12
I208 F13
I209 D12
I210 D12
I211 D13

3139 123 5906.2

F_15270_055.eps
190505

IBO Zapper: Power Supply

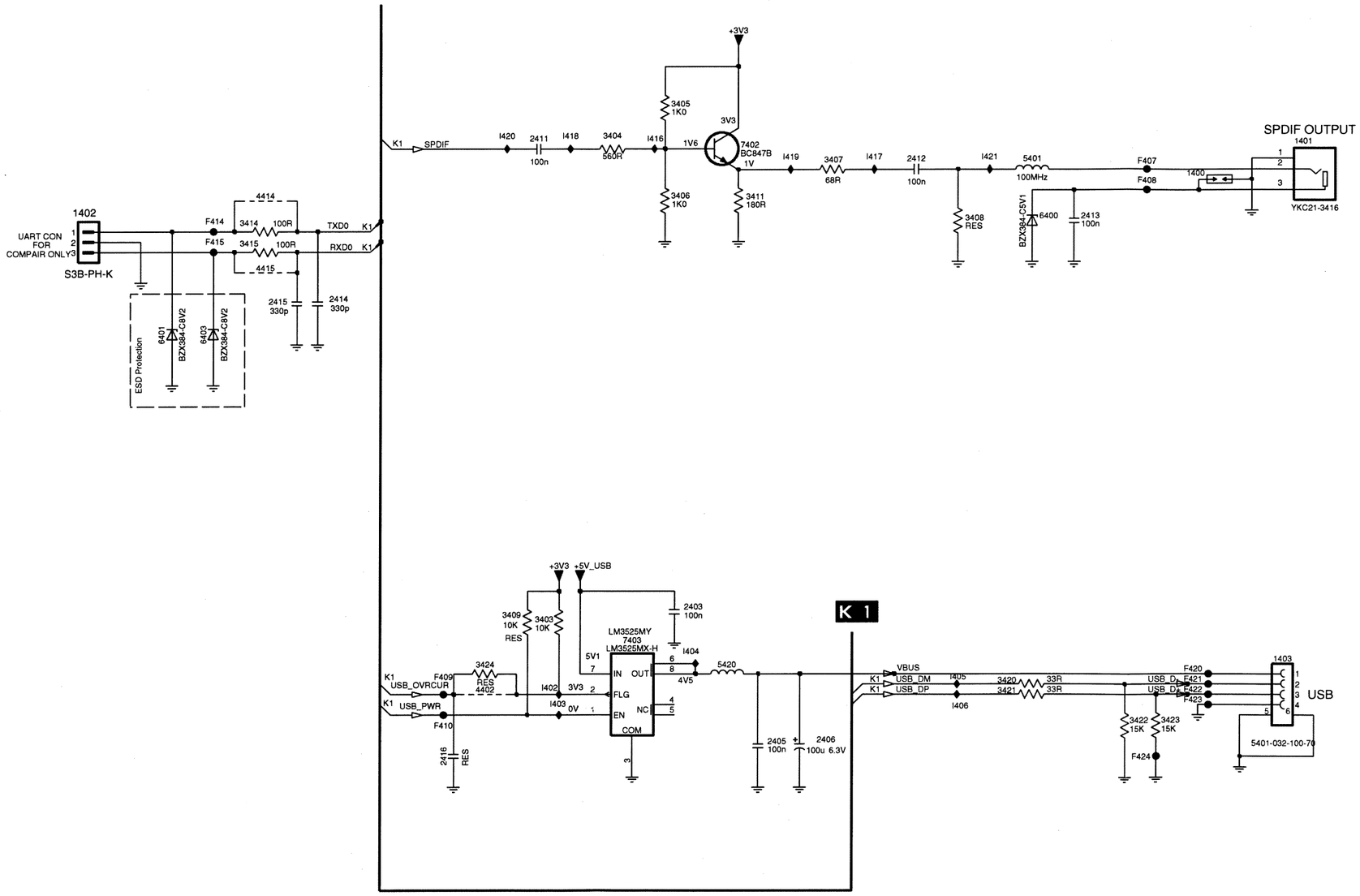


1301 B1 F314 I13
1303 H3 F315 G7
1304 B6 F316 H11
2300 B10 F317 F13
2301 B7 I301 D2
2302 C13 I302 D1
2303 C8 I306 D1
2304 C11 I310 A11
2305 F11 I312 A13
2306 C12 I313 B13
2308 D10 I314 B10
2309 E7 I316 B7
2310 E8 I317 B11
2311 E11 I318 B8
2312 A11 I321 D11
2313 G10 I322 D7
2314 H2 I323 E8
2315 H7 I324 G11
2316 H8 I325 H7
2317 H12 I326 H8
2318 H11 I327 E11
2319 I13 I328 B2
2320 C12 I330 F11
2321 D11 I331 F11
2322 G11
2323 A11
2324 B10
2325 D10
2326 H11
2327 H11
2328 I11
2329 C9
2330 E12
2331 H9
2332 F13
2333 B2
2334 B3
2335 B3
2336 E9
2337 B11
3300 A7
3301 A7
3302 A8
3303 A7
3304 B9
3306 C8
3307 C9
3311 D8
3312 D7
3313 D7
3314 D7
3315 E9
3316 G3
3317 E9
3318 G7
3319 G7
3320 G7
3321 G8
3322 H9
3323 H8
3324 A12
3325 A13
3326 A11
3327 A13
3328 B13
3329 A12
3330 A11
3331 I8
3332 E9
3333 B11
3334 C12
4302 F11
4303 E12
5300 B11
5301 B7
5302 C12
5303 D11
5304 D6
5305 H11
5306 H6
5307 E12
5309 B3
6300 A10
6303 D11
6304 G11
6305 F11
6306 E11
6307 B12
7300 A9
7301 C12
7302 F12
7303 C9
7305 F9
7306 G2
7307 H12
7308 I12
7309 A13
7310 A12
7311 B11
7312 B12
F300 A7
F301 B5
F302 B5
F303 B13
F304 C13
F305 C1
F306 C1
F307 C12
F308 D7
F309 B2
F310 E12
F312 H2
F313 H13

IBO Zapper: Interface

K4 INTERFACE

K4



1400 B10
1401 B11
1402 B3
1403 F11
2403 E7
2405 F7
2406 F8
2411 B6
2412 B8
2413 B9
2414 C4
2415 C4
2416 F5
3403 E6
3404 B6
3405 B7
3406 B7
3407 B8
3408 B9
3409 E6
3411 B7
3414 B4
3415 C4
3420 F9
3421 F9
3422 F10
3423 F10
3424 F5
4402 F5
4414 B4
4415 C4
5401 B9
5420 F7
6400 B9
6401 C3
6403 C4
7402 B7
7403 E6
F407 B10
F408 B10
F409 F5
F410 F5
F414 B4
F415 C4
F420 F10
F421 F10
F422 F10
F423 F10
F424 F10
I402 F6
I403 F6
I404 E7
I405 F9
I406 F9
I416 B7
I417 B8
I418 B6
I419 B8
I420 B6
I421 B9

3139 123 5906.2

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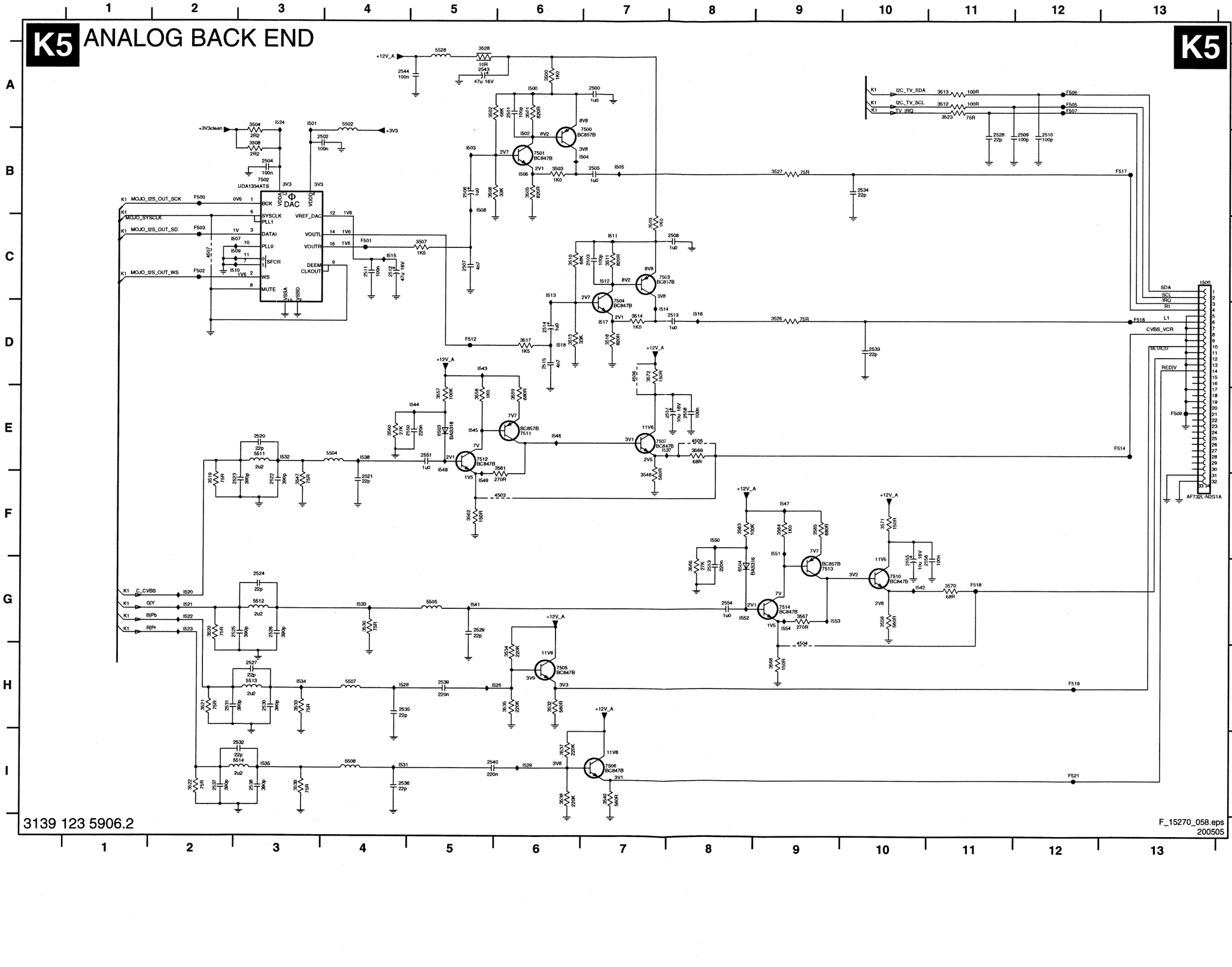
IBO Zapper: Analog Back End



1500 C13	5512 G3	3527 G9	I516 D8
2500 A7	5513 H3	3528 A5	I517 D7
2501 A6	5514 I3	3529 A4	I518 D6
2502 B3	5528 A5	3530 G4	I520 G2
2503 C7	6503 E5	3532 H6	I521 G2
2504 B3	6504 G8	3533 H3	I522 G2
2505 B7	7500 A6	3534 H6	I523 G2
2506 B5	7501 B6	3535 H6	I524 A3
2507 C5	7502 B3	3537 I6	I526 H6
2508 C8	7503 C7	3538 I6	I528 H4
2509 B12	7504 D7	3539 I3	I529 I6
2510 B12	7505 H6	3540 I7	I531 I4
2511 C4	7506 I7	3547 F3	I532 E3
2512 C4	7507 E7	3548 F7	I533 G4
2513 D8	7510 G10	3556 G10	I534 H3
2514 D6	7511 E6	3557 E5	I535 I3
2515 D6	7512 E5	3558 E5	I537 E7
2520 E3	7513 G9	3559 E6	I538 E4
2521 F4	7514 G9	3560 E4	I541 G5
2522 F3	F500 B2	3561 E6	I542 G10
2523 F3	F501 C4	3562 F5	I543 D5
2524 G3	F502 C2	3563 F8	I544 E5
2525 G3	F503 C2	3564 F9	I545 E5
2526 G3	F505 A12	3565 F9	I546 E6
2527 H3	F506 A12	3566 G8	I547 F9
2528 B11	F507 A12	3567 G9	I548 E5
2529 G5	F509 E13	3568 H9	I549 F5
2530 H3	F512 D5	3569 E8	I550 F8
2531 H2	F514 E13	3570 G11	I551 F9
2532 I3	F516 D13	3571 F10	I552 G8
2533 D10	F517 B13	3572 D7	I553 G9
2534 B10	F518 G11	4503 F6	I554 G9
2535 H4	F519 H12	4504 H9	
2536 I4	F521 I12	4505 E8	
2537 I2	I500 A6	4506 D7	
2538 I3	I501 A3	4507 C2	
2539 H5	I502 B6	5502 A4	
2540 I5	I503 B5	5504 E4	
2543 A5	I504 B7	5505 G5	
2544 A4	I505 B7	5507 H4	
2550 E5	I506 B6	5508 I4	
2551 E5	I507 C2	5511 E3	
2553 G8	I508 B5		
2554 G8	I509 C2		
2555 G10	I510 C2		
2556 G11	I511 C7		
2557 E8	I512 C7		
2558 E8	I513 C6		
3500 A6	I514 D7		
3501 A6	I515 C4		
3502 A5	I516 D8		
3503 B6	I517 D7		
3504 A3	I518 D6		
3505 B6	I520 G2		
3506 B5	I521 G2		
3507 C5	I522 G2		
3508 B3	I523 G2		
3509 C7	I524 A3		
3510 C6	I526 H6		
3511 C7	I528 H4		
3512 A11	I529 I6		
3513 A11	I531 I4		
3514 D7	I532 E3		
3515 D6	I533 G4		
3516 D7	I534 H3		
3517 D6	I535 I3		
3519 F2	I537 E7		
3520 G2	I538 E4		
3521 H2	I541 G5		
3522 I2	I542 G10		
3523 A11	I543 D5		
3526 D9	I544 E5		
3527 B9	I545 E5		
3528 A5	I546 E6		
3530 G4	I547 F9		
3532 H6	I548 E5		
3533 H3	I549 F5		
3534 H6	I550 F8		
3535 H6	I551 F9		
3537 I6	I552 G8		
3538 I6	I553 G9		
3539 I3	I554 G9		
3540 I7			
3547 F3			
3548 F7			
3556 G10			
3557 E5			
3558 E5			
3559 E6			
3560 E4			
3561 E6			
3562 F5			
3563 F8			
3564 F9			
3565 F9			
3566 G8			
3567 G9			
3568 H9			
3569 E8			
3570 G11			
3571 F10			
3572 D7			
4503 F6			
4504 H9			
4505 E8			
4506 D7			
4507 C2			
5502 A4			
5504 E4			
5505 G5			
5507 H4			
5508 I4			
5511 E3			

IBO Zapper: Front End

K6 FRONT END

TUNER

1600 TD1316/SPHP

RF IN

LB

MB

HB

OSC

PLL

SCL

SDA

XTAL

IF-OUT

IF-AGC

IF-1

IF-2

MT

OC/PWR

NC

AGC

VTUN

F600

F603

I601

5602 2622 47u 16V 2623 100n

+5Vclean

I602

+3V3

7605 74AHC1GU04GW 3V2 1V3 1V6 3636 680K 3637 220K 3638 330R I633 3639 39R 4MHz

7606 74AHC1GU04GW 3V2 1V3 1V6 3640 680K 3641 220K 3642 330R I634 3643 33R 4MHz_MOJO K1

2625 100n

4695

3606 3607 3608 2K7 100R 100R 100R

+5V +5Vclean

3611 100K 3616 10K OPTION

3612 4K7 3613 100K 3620 4K7 3623 4K7

7601-1 LM393D 7601-2 LM393D

2626 100n 2638 100n

K6 COMP_OUT

I632 I605 I606 I607 I631

4606 OPTION

2627 100n 2628 100n 2629 100n 2631 100n

3614 100K 3615 1K0 3609 4K7 3610 4K7

F604 F605 F606 F607 F608

2632 10p 3618 100K 3619 100K

1601 AT-49 4MHz 3617 220R 2633 33p 2634 33p OPTION

I616

K6 COMP_OUT 2V3 F609

K1 FE_LOCK F610 3621 33R I614 3645 10K

I2C_TDA_SDA

I2C_TDA_SCL

F611 F612

K1, K2, K7 I2C_LOCAL_SDA 3625 100R

K1, K2, K7 I2C_LOCAL_SCL 3629 100R

3630 100R 3631 100R

RESERVED

5603 2635 100n

7602 M24256-BWMN6 (32Kx8) EEPROM

3634 470R F613 4610 K1 dsp_EEPROM_WP

3632 100R 3633 100R

OPTION

EEPROM

7600 TDA10046AHT

COFDM CHANNEL DECODER

RESET_FE_n

CLR_

AGC_TUN AGC_IF VIP VIM XIN XOUT GPIO0 GPIO1 GPIO2 GPIO3 SADDR0 SADDR1 SDA SCL SDA_TUN SCL_TUN TEST

I2C

MPEG-TS (SERIAL) JTAG

MPEG-TS (SERIAL)

MPEG-TS (PARALLEL)

TDO TDI TMS TCK TRST ENSERI S_DO S_OCLK S_DEN B_PSYNC S_UNCOR

DO0 DO1 DO2 DO3 DO4 DO5 DO6 DO7 OCLK DEN PSYNC UNCOR SACLK

10046_TDO STV_TDO JTAG_TMS JTAG_TCK JTAG_TRST

TDA_DAT(0) TDA_DAT(1) TDA_DAT(2) TDA_DAT(3) TDA_DAT(4) TDA_DAT(5) TDA_DAT(6) TDA_DAT(7) TDA_CLK TDA_VALID TDA_SYNC UNCOR

+1V8FE +3V3FE 5600

2607 2608 2609 2610 2611 2612 2613 2614 2615 2617 2618 2619 2620 2621 100n 47u 16V

5601 33R 2624 100n

ROW_2 1603-2 FTSH

ROW_1 1603-1 FTSH

F_15270_059.eps 200505

3139 123 5906.2

1600 A2 I607 E6
1601 F6 I614 G8
1603-1 H13 I615 G12
1603-2 H12 I616 G4
2607 D10 I618 G12
2608 D9 I619 G12
2609 D9 I620 G12
2610 D10 I621 G12
2611 D10 I622 G12
2612 D10 I623 G12
2613 D11 I624 G12
2614 D11 I625 G12
2615 D8 I626 H12
2617 D8 I627 H12
2618 D10 I628 H11
2619 D11 I629 H11
2620 D11 I631 E7
2621 D11 I632 E2
2622 D3 I633 C7
2623 D4 I634 D7
2624 E13
2625 D7
2626 E2
2627 E5
2628 F6
2629 F7
2630 F1
2631 F6
2632 F5
2633 G5
2634 G6
2635 H4
3606 C4
3607 C4
3608 E8
3609 E6
3610 E6
3611 E4
3612 E1
3613 E2
3614 E6
3615 E6
3616 F4
3617 F6
3618 F5
3619 F5
3620 G3
3621 G8
3622-1 G11
3622-2 G11
3622-3 G11
3622-4 G11
3623 G3
3624-1 G11
3624-2 G11
3624-3 G11
3624-4 G11
3625 G8
3626 G5
3627 G5
3629 G8
3630 H8
3631 H8
3632 H5
3633 H5
3634 I3
3635 E11
3636 C6
3637 C6
3638 C7
3639 C7
3640 D6
3641 D6
3642 D7
3643 D7
3644-1 G11
3644-2 H11
3644-3 H11
3644-4 H11
3645 G8
4605 E7
4606 E3
4607 E5
4610 I3
5600 C10
5601 D13
5602 D3
5603 H4
7600 E8
7601-1 E2
7601-2 F2
7602 H4
7605 C6
7606 D6
F600 C2
F603 D3
F604 F5
F605 F5
F606 F5
F607 F7
F608 F7
F609 F8
F610 G7
F611 H5
F612 H5
F613 I3
I601 D4
I602 C5
I603 H12
I604 E8
I605 E4
I606 E5

IBO Zapper: Common Interface

K7 COMMON INTERFACE

PCMCIA CONTROLLER

I²C INTERFACE

TS INTERFACE

INTERRUPTS MANAGEMENT

UCSG

CURRENT SWITCH

LATCH

LATCH

68p PCMCIA CONNECTOR

BUS TRANSCEIVER

3139 123 5906.2

F_15270_060.eps 200505

Layout IBO Zapper (Top Side)

0005 C2
0006 B2
0007 B2
0008 B2
0009 A2
0010 A2
0011 A2
1100 A6
1101 A6
1106 A6
1301 C1
1303 A6
1304 C2
1401 A6
1402 A5
1403 A6
1500 C1
1600 A1
1601 A3
1603 A4
1700 A4
2100 B6
2101 C6
2102 A6
2130 B6
2131 C6
2132 B6
2133 C6
2201 B5
2203 B5
2204 B5
2206 C6
2214 A4
2301 C2
2302 C4
2303 C2
2304 C3
2306 B3
2308 C3
2309 C3
2310 C3
2311 C4
2314 A6
2315 B2
2316 B3
2317 B3
2318 B3
2319 B3
2320 C4
2321 C3
2322 C5
2323 C1
2325 C4
2328 B3
2329 B3
2330 C4
2331 B3
2332 C5
2333 C1
2334 C1
2335 C1
2336 C3
2337 C4
2403 A6
2405 A6
2406 A6
2411 A6
2412 A6
2414 A5
2415 A5
2416 A6
2500 A5
2501 A5
2502 A6
2503 A5
2504 A6
2505 A5
2506 A5
2507 A6
2508 A5
2509 A2
2510 A2
2511 A6
2512 A6
2513 A5
2514 A5
2515 A6
2520 C6
2521 C2
2522 C6
2523 C6
2524 C6
2525 C6
2526 C6
2527 C6
2529 C2
2530 C6
2531 C6
2532 C6
2533 A2
2534 A2
2535 C2
2536 C2
2537 C6
2538 C6
2539 C1
2543 A5
2550 C2
2551 C1
2553 C1
2554 C2
2555 C2
2556 C1
2558 C1
2614 A3
2621 A3
2622 A2
2623 A2
2624 A3
2625 A3
2626 B2
2627 A2
2628 A2
2629 A3
2630 B3
2631 A3
2632 A3
2633 A3
2634 A3
2635 A3
2636 A3
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2638 A3
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2640 B6
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2642 B6
2643 B6
2644 A3
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2703 C6
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2708 A5
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2710 B6
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2713 A5
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3102 A6
3103 A6
3104 A6
3105 A6
3106 A6
3107 A6
3108 A6
3109 A6
3110 A6
3111 B6
3112 A6
3113 A6
3114 A6
3115 A6
3116 A6
3117 A6
3118 A6
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3139 A6
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3304 B3
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3323 B3
3324 B4
3325 B4
3326 C3
3327 C4
3328 C4
3329 C3
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3331 B3
3332 C3
3333 C3
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3343 C3
3344 C3
3345 C3
3346 C3
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3391 C3
3392 C3
3393 C3
3394 C3
3395 C3
3396 C3
3397 C3
3398 C3
3399 C3
3400 C3
3401 C3
3402 C3
3403 C3
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3418 A4
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3506 A6
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3509 A5
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3511 A5
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3515 A6
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3533 C2
3534 C1
3535 C1
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3538 C1
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3540 C1
3541 C1
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3543 C1
3544 C1
3545 C1
3546 C1
3547 C2
3548 C1
3549 C1
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3551 C1
3552 C1
3553 C1
3554 C1
3555 C1
3556 B1
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3560 C1
3561 C1
3562 C1
3563 C1
3564 C1
3565 C1
3566 C2
3567 C1
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3623 A2
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3630 A3
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3632 A3
3633 A3
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3635 A3
3636 A3
3637 A3
3638 A3
3639 A3
3640 B6
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3711 A5
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3716 A4
3719 A4
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3723 B5
3724 C5
3725 B4
3726 A3
3734 B5
3749 B4
3750 B4
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4101 A4
4102 A6
4104 A6
4105 A6
4106 A6
4107 A6
4109 A6
4110 A6
4200 C5
4201 C5
4202 C5
4203 C5
4205 C5
4212 A4
4402 A6
4414 A5
4415 A5
4503 C1
4504 B1
4505 C1
4506 C1
4605 A3
4606 A2
4607 A2
4610 A3
4700 A4
5100 B6
5101 C6
5102 C6
5103 C6
5200 B5
5201 B5
5202 C6
5203 A4
5300 C3
5301 C2
5302 B4
5303 C4
5304 C5
5305 B5
5306 B2
5401 A6
5420 A6
5502 A6
5504 C2
5505 C2
5507 C2
5508 C2
5511 C6
5512 C6
5513 C6
5514 C6
5600 A3
5601 A3
5602 A2
5603 A2
5702 C4
5703 B3
5704 A5
6401 A5
6403 A5
6503 C1
6504 C6
7100 B6
7103 A4
7104 A4
7200 B5
7201 B6
7202 C6
7203 A4
7300 C3
7301 B3
7302 C5
7303 C3
7305 B3
7306 A6
7307 B3
7308 A3
7309 C4
7310 C3
7311 C4
7402 A6
7403 A6
7500 A5
7501 A5
7502 A6
7503 A5
7504 A5
7505 C1
7507 C1
7510 C1
7511 C1
7512 C1
7513 C1
7514 C1
7600 A3
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7605 A3
7606 B6
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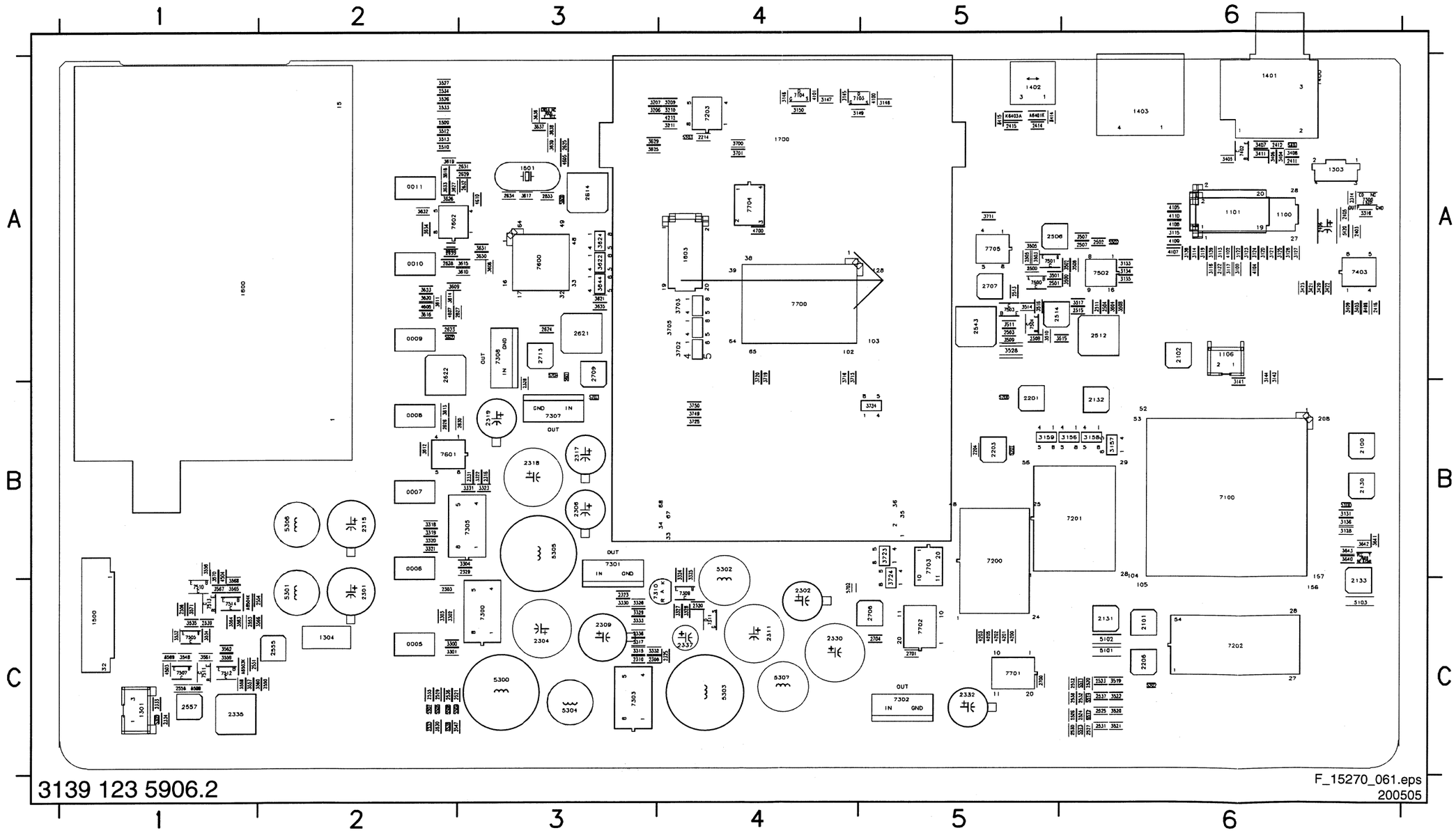
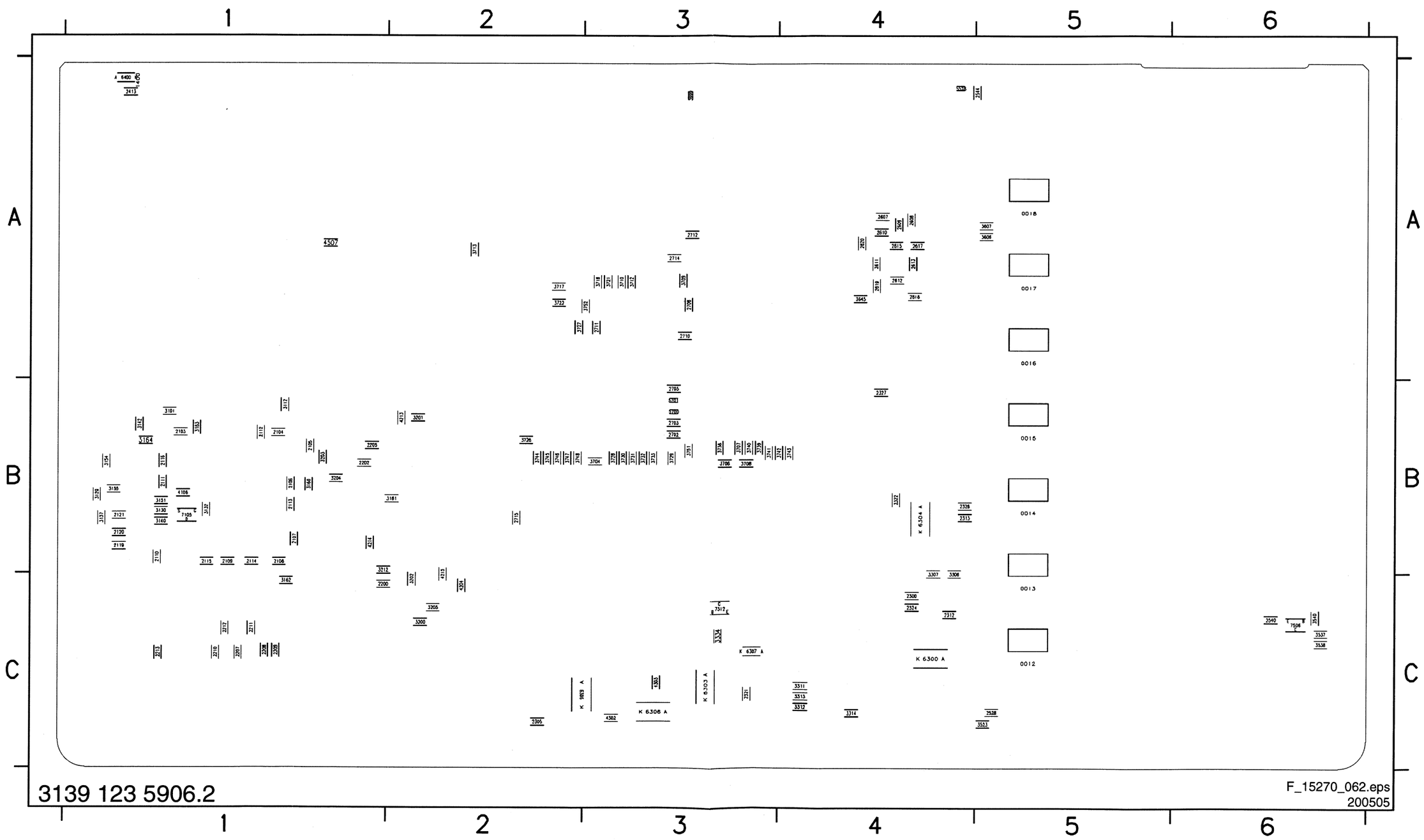
7702 C5
7703 B5
7704 A4
7705 A5



Layout IBO Zapper (Bottom Side)

1400	A1	2111	B1	2200	C1	2213	C1	2327	B4	2611	A4	2703	B3	3112	B1	3155	B1	3203	B1	3314	C4	3704	B3	3718	A3	3732	B3	3745	B2	4213	B2	6300	C4	7506	C6
2103	B1	2112	B1	2202	B1	2300	C4	2413	A1	2612	A4	2705	B3	3129	B1	3160	B1	3204	B1	3334	C3	3706	B3	3721	A3	3733	B3	3746	B2	4214	B1	6303	C3		
2104	B1	2113	B1	2205	B1	2305	C2	2528	C5	2613	A4	2708	A3	3130	B1	3161	B2	3205	C2	3523	C5	3707	B3	3722	A2	3738	B3	3747	B2	4215	C2	6304	B4		
2105	B1	2114	B1	2207	C1	2312	C4	2540	C6	2615	A4	2710	A3	3132	B1	3162	C1	3212	B1	3537	C6	3708	B3	3726	B2	3739	B3	3748	B2	4302	C3	6305	C2		
2106	B1	2115	B1	2208	C1	2313	B4	2544	A5	2617	A4	2711	A3	3137	B1	3163	B1	3306	C4	3538	C6	3709	A3	3727	A2	3740	B3	3751	B3	4303	C3	6306	C3		
2107	B1	2116	B1	2209	C1	2321	C3	2607	A4	2618	A4	2712	A3	3140	B1	3164	B1	3307	C4	3540	C6	3710	A3	3728	B3	3741	B3	3752	A3	4507	A1	6307	C3		
2108	B1	2119	B1	2210	C1	2322	B4	2608	A4	2619	A4	2714	A3	3142	B1	3200	C2	3311	C4	3606	A5	3712	A3	3729	B3	3742	B4	3999	A3	5528	A4	6400	A1		
2109	B1	2120	B1	2211	C1	2324	C4	2609	A4	2620	A4	2715	B2	3151	B1	3201	B2	3312	C4	3607	A5	3713	A2	3730	B3	3743	B4	4108	B1	5700	B3	7105	B1		
2110	B1	2121	B1	2212	C1	2326	B4	2610	A4	2702	B3	3101	B1	3154	B1	3202	C2	3313	C4	3645	A4	3717	A2	3731	B3	3744	B2	4204	C2	5701	B3	7312	C3		



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200505

8. Alignments

Index of this chapter:

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 100-240 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

8.2 Hardware Alignments

There are no hardware alignments foreseen for the plasma-TV.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned.
To store the data: Use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

8.3.1 SAM Menu

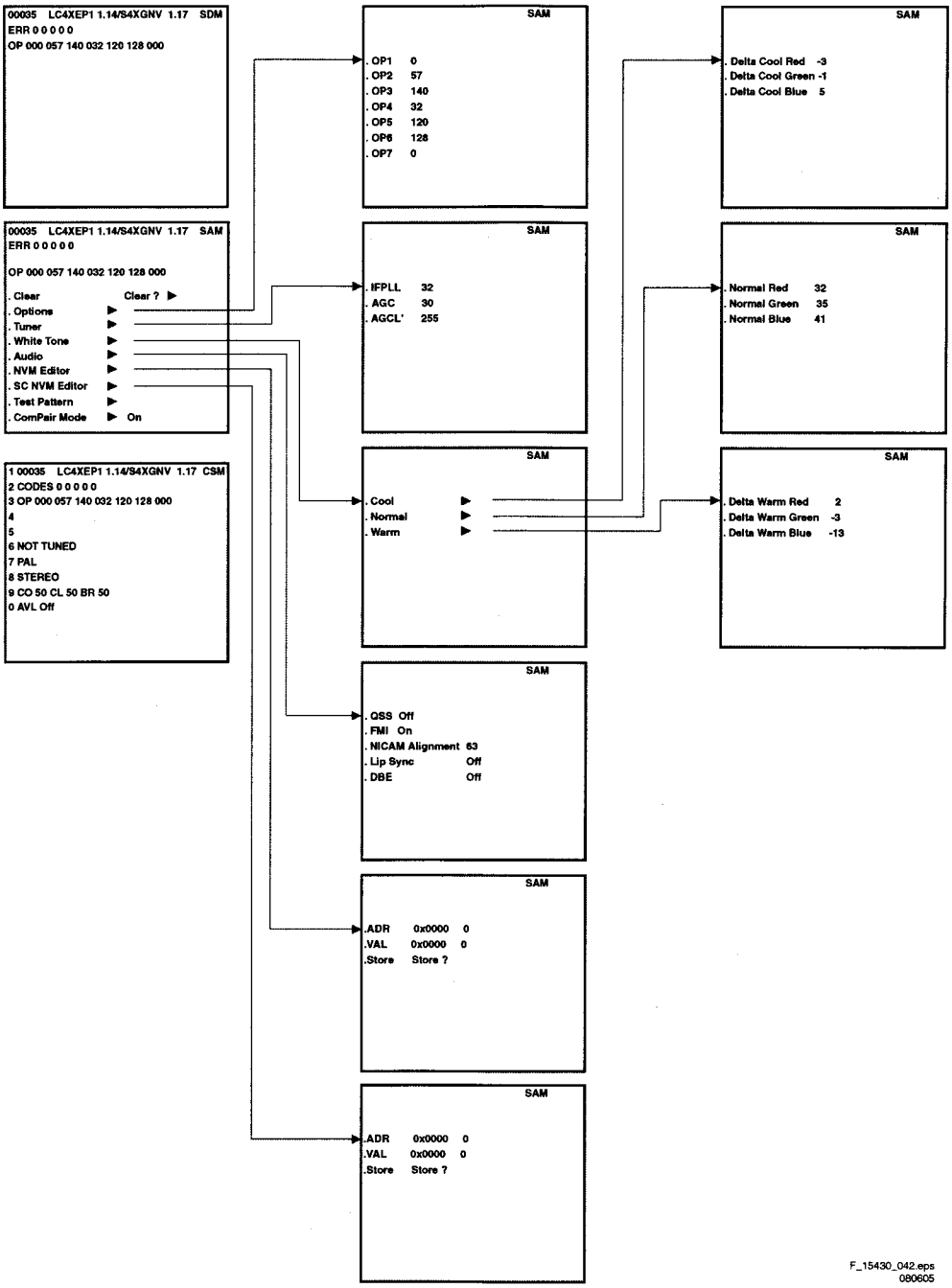

Figure 8-1 Overview SAM menu.

8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)

- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

Caution:

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the orgininal settings, if the new settings turn out to be incorrect.

Table 8-1 ADC gain and grey scale alignment

SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM				
		These models are with ADC & Columbus 3D Combfilter		
Setting	Hercules NVM Address (decimal value)	42PF7520D/10	42PF5520D/10	Settings Range (decimal value)
NVM_ADC_GAIN_R	006	143	143	075 - 155
NVM_ADC_GAIN_G	007	191	191	200 - 250
NVM_ADC_GAIN_B	008	143	143	075 - 155

SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM				
		These models are with ADC & Columbus 3D Combfilter		
Setting	Scaler NVM Address (decimal value)	42PF7520D/10	42PF5520D/10	Settings Range (decimal value)
ADC_RED_OFFSET2	338	080	080	050 - 110
ADC_GRN_OFFSET2	339	080	080	050 - 110
ADC_BLU_OFFSET2	340	080	080	050 - 110
ADC_RED_GAIN	341	154	154	045 - 095
ADC_GRN_GAIN	343	154	154	045 - 095
ADC_BLU_GAIN	345	154	154	045 - 095
PC Greyscale settings				
		These models are with ADC & Columbus 3D Combfilter		
Setting	Scaler NVM Address (decimal value)	42PF7520D/10	42PF5520D/10	Settings Range (decimal value)
ADC_RED_OFFSET2	325	080	080	040 - 090
ADC_GRN_OFFSET2	326	080	080	040 - 090
ADC_BLU_OFFSET2	327	080	080	040 - 090
ADC_RED_GAIN	328	154	154	180 - 270
ADC_GRN_GAIN	330	154	154	180 - 270
ADC_BLU_GAIN	332	154	154	180 - 270
HD Greyscale settings				
		These models are with ADC & Columbus 3D Combfilter		
Setting	Scaler NVM Address (decimal value)	42PF7520D/10	42PF5520D/10	Settings Range (decimal value)
ADC_RED_OFFSET2	351	064	064	050 - 090
ADC_GRN_OFFSET2	352	082	082	050 - 090
ADC_BLU_OFFSET2	353	064	064	050 - 090
ADC_RED_GAIN	354	159	159	120 - 200
ADC_GRN_GAIN	356	144	144	120 - 200
ADC_BLU_GAIN	358	147	147	120 - 200

8.3.5 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

8.3.6 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their orginal default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

How to Change an Option Byte

As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched "off" and "on" with the AC power switch (cold start).

Table 8-2 Option codes OP1...OP7

Option table for quickly restoring the HERCULES bits to its Factory Default settings		
Model number	42PF7520D/10	42PF5520D/10
OP1	152	152
OP2	37	101
OP3	79	15
OP4	241	241
OP5	252	252
OP6	27	27
OP7	19	19
Options (can be changed only via the SAM menu)	Total decimal value for each option per model number	

How to Change Options at Bit Level

If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.
Note: the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table "ADC Gain and Grey scale alignment" elsewhere in this manual.

Table 8-3 Option codes in detail, at bit level

Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu			
		Model number	42PF7520D/10	42PF5520D/10
OP1	**Description of feature/option to be switched ON or OFF**		
bit 7 (msb)	OP_PHILIPS_TUNER		1	1
bit 6	OP_FM_RADIO		0	0
bit 5	OP_LNA		0	0
bit 4	OP_ATS // for EU		1	1
bit 3	OP_ACI		1	1
bit 2	OP_UK_PNP		0	0
bit 1	OP_VIRGIN_MODE		0	0
bit 0 (lsb)	OP_CHINA		0	0
	Total DEC Value		152	152
	Total HEX Value		98	98
OP2				
bit 7 (msb)	OP_SC		0	0
bit 6	OP_IBEX		1	1
bit 5	OP_CHANNEL_NAMING		1	1
bit 4	OP_LTI (Lum Transcient Improvmt)		0	0
bit 3	OP_TILT		0	0
bit 2	OP_FINE_TUNING		1	1
bit 1	OP_PIP_PHILIPS_TUNER		0	0
bit 0 (lsb)	OP_HUE		1	1
	Total DEC Value		101	101
	Total HEX Value		65	65
OP3				
bit 7 (msb)	OP_EW_FUNCTION		0	0
bit 6	OP_PIXEL_PLUS		1	0
bit 5	OP_PIP_SPLITTER // temp		0	0
bit 4	OP_SPLITTER // temp		0	0
bit 3	OP_VIRTUAL_DOLBY		1	1
bit 2	OP_WIDE_SCREEN		1	1
bit 1	OP_WSSB		1	1
bit 0 (lsb)	OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation		1	1
	Total DEC Value		79	15
	Total HEX Value		4F	0F
OP4				
bit 7 (msb)	OP_LIP_SYNC		1	1
bit 6	OP_HD		1	1
bit 5	OP_ULTRA_BASS		1	1
bit 4	OP_DELTA_VOLUME		1	1
bit 3	OP_TAIWAN_KOREA		0	0
bit 2	OP_VOLUME_LIMITER		0	0
bit 1	OP_STEREO_DBX		0	0
bit 0 (lsb)	OP_STEREO_NICAM_2CS		1	1
	Total DEC Value		241	241
	Total HEX Value		F1	F1
OP5				
bit 7 (msb)	OP_AV1		1	1
bit 6	OP_AV2		1	1
bit 5	OP_AV3		1	1
bit 4	OP_CVI		1	1
bit 3	OP_SVHS2		1	1
bit 2	OP_SVHS3		1	1
bit 1	OP_HOTEL_MODE		0	0
bit 0 (lsb)	OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO		0	0
	Total DEC Value		252	252
	Total HEX Value		FC	FC
OP6				
bit 7 (msb)	OP_PERSONAL_ZAPPING		0	0
bit 6	OP_SMART_SURF		0	0
bit 5	OP_FMTRAP		0	0
bit 4	OP_COMBFILTER		1	1
bit 3	OP_ACTIVE_CONTROL		1	1
bit 2	OP_VIDEO_TEXT		0	0
bit 1	OP_LIGHT_SENSOR		1	1
bit 0 (lsb)	OP_TWIN_TEXT		1	1
	Total DEC Value		27	27
	Total HEX Value		1B	1B
OP7				
bit 7 (msb)	OP_TIME_WIN1		0	0
bit 6	OP_DVB_USB = OP_MALAY		0	0
bit 5	OP_AMBILIGHT		0	0
bit 4	OP_COLUMBUS		1	1
bit 3	OP_DUMMY6		0	0
bit 2	OP_DUMMY7		0	0
bit 1	OP_WEST_EU		1	1
bit 0 (lsb)	OP_MULTI_STANDARD_EUR		1	1
	Total DEC Value		19	19
	Total HEX Value		03	03

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction

The Digital Video Broadcasting (DVB) TV sets/models discussed in this manual are a combination of a standard TV set and an IBO zapper module. For a description of the original TV sets (without an IBO zapper module), see the LC4.9E AA manual, order code 3122 785 15432. The table below shows the original models of TV sets on which the IBO zapper models are based, together with the various picture qualities globally available (the Crystal Clear version is not applicable to the TV sets discussed in this manual).

Table 9-1 TV Models and Picture Quality

IBO Zapper Model	Original TV Model	Picture quality
42PF7520D/10	42PF7320/10	Pixel Plus
42PF5520D/10	42PF5320/10	Digital Crystal Clear
N.a.	N.a.	Crystal Clear

9.2 IBO Zapper Module

The "IBO Zapper" module is meant to receive, process, and transfer Digital Video Broadcasting-Terrestrial (DVB-T) signals to the internal TV interface for audio, video, and control. The "IBO Zapper" is intended for use in combination with an analogue TV chassis.

9.3 Block diagram IBO Zapper Module

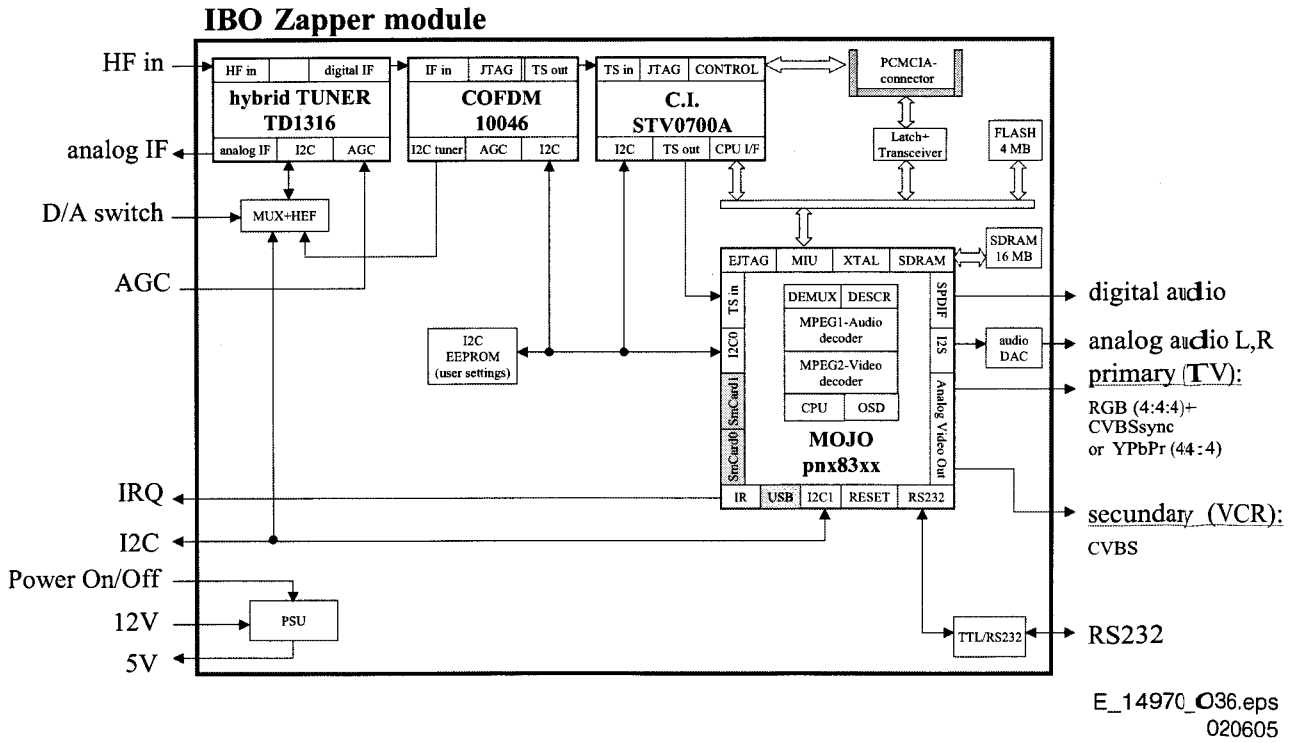

Figure 9-1 Block Diagram IBO zapper module

9.4 PNx83xx MOJO

The MOJO is a source decoder chip targeted for very low cost application in integrated digital televisions.The device contains all hardware and software to be able to decode and display MPEG2 transport streams, including:

- Descrambling
- Demultiplexing
- Audio / video decompression
- Video encoding.
- Overlay graphics provisions

Some features of the MOJO are:

- 32-bit PR1910 core operating at 120 MHz.
- 16-bit memory and peripheral interface to connect ROM, NOR Flash and various peripherals.
- Sixteen external interrupt inputs shared with PIO lines.
- Several embedded peripheral units with physical interfaces to:
  - Two UART (RS-232) data ports
  - Two I^2C master / slave transceivers
  - Two smart-card reader interfaces
  - One Integrated Conditional Access Module interface
- Supports parallel and serial transport stream input interfaces

9.5 Front End

The front end of the "IBO Zapper" module is almost identical to the "IBO+" module as used in the A10E with the exception that the Transport Streams that come from the COFDM demodulator are now fed through the PCMCIA controller first. The PCMCIA controller receives encrypted Transport Streams from the COFDM demodulator. Via the PCMCIA card, these encrypted Transport Streams are decrypted, and transported to the MOJO.

9.6 Back End

The MOJO is the main building block of the back-end of the "IBO Zapper" module. The IC decodes the MPEG-2 stream into analogue video and digital audio.

9.6.1 Transport Stream Input

The Transport Stream input is according to MPEG2 standard. In the "IBO Zapper", only 8-bit parallel is supported. The used TS names are TDA_DATA.

9.6.2 Video Outputs

The MOJO has two analogue video outputs:

- Primary (TV): YUV + RGB
- Secundary (VCR): CVBS

The primary MOJO output is used as input for the TV display and is fed either to the Hercules YUV/RGB input (pins 78/79/80), for teletext insertion purposes, or directly to the analogue Scaler input D2/C2/B2. The signal path is as follows: switch 7G09 chooses between the SCART1 input signal and the YUV/RGB output of the MOJO. The signal selected by switch 7G09 is passed on to one group of the inputs of switch 7E00. The other group of inputs of this switch is connected to the three analogue input pins of the DVI-D connector. The output signal of switch 7E00 is passed on to the Hercules input, pins 78/79/80 and to the Scaler input D2/C2/B2 via switch 7E01 in the MUX-SYNC interface. This switch chooses between the MOJO output signal and the Hercules output signal, which is used for SDTV signals (analogue terrestrial TV reception via the analogue receiving part). The Hercules output is not only used for SDTV signals, but also for MOJO output signals that were first sent to the Hercules input for e.g. teletext reinsertion purposes before they are passed on to the Scaler.
The secundary MOJO output, which delivers CVBS signals, is used for monitoring purposes or for recording via the SCART 2 output of the TV set. The signal path of the secundary MOJO output is as follows:
the CVBS/VCR signal coming from the MOJO is sent to the Hercules video switch input, pin 58, via switch 7G07. The signal then appears on one of the outputs of the Hercules video switch, pin 48, and is passed on via switches 7219 and 7G10 to pin 19 of SCART 2, which is the CVBS/monitor output.
For further details, see the manuals of the original TV sets on which the various models of IBO zappers are based.

9.6.3 Audio Outputs

The MOJO has two audio output interfaces:

- SPDIF Out: The SPDIF sound output goes directly to a connector on the back of the module.
- I2S Out: This digital sound output is fed through a DAC and the analogue L/R signals are directely fed into the Hercules.

9.7 IBOLink Interface

The IBOLink™ approach is such that the conventional TV microcontroller is re-used when digital functionality is added. In principle, the TV can still operate without the bolt-on module. The IBOLink™ software is added to the TV-set software, and is operating as a software bridge.

9.8 Control Interface

The "IBO Zapper" is connected as a slave I^2C device, The I^2C bus should be +5V tolerable and operating at 100kHz(MAX). The "IBO Zapper" module slave address is 0xE4 (similar to IBO+) but is configurable via IBOLink.

All communication from digital module to Television chassis has to be initiated via an active low hardware interrupt line from the digital module.

9.9 UART Interface

The UART interfaces (Universal Asynchronous Receiver And Transmitter) are serial interfaces, which are used to transfer data and commands between two devices.

The "IBO Zapper" system uses an UART interface for serial communication with a pc for:

- Diagnostic SW for Service or Production
- SW uploading for Service or Development

9.10 Power Supply IBO Zapper Module

The "IBO Zapper" module operates from a single 12V supply provided by the TV chassis. All other voltages that the module needs are derived from the +12V. The module has four different physical power states:

- "Off" State.
- "Passive Standby".
- "Active Standby".
- "On" State.

9.10.1 Off State

The set is powered off via the main power switch. The module is not powered.

9.10.2 Passive Standby State

The set is in standby mode. The module is in off state.

9.10.3 Active Standby State

The set is in "Semi-Standby" mode. All the circuits in the set, except the audio output and the LCD display are powered up and fully active. The set appears to be in normal standby mode for the customer.

The module is in "On" or "Logical Standby" state.

- On state. In this state the module can perform the following pre-programmed functions:
  - VCR (digital program) records
  - EPG updates
  - Over-the-air software download signaling detection and software downloads
- Logial Standby state. In this state only over-the-air software download signaling detection and software downloads can be performed.

9.10.4 On State

The set is fully functional and the module is powered up. The module is in "On" or "Logical Standby" state.

- On state. In this state all system functionality is available or the module is in software downloading process.
- Logial Standby state. In this state only over-the-air software download signaling detection and software downloads can be performed.

9.11 Abbreviation List

0/6/12	SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format
1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound (or 2 Channel Stereo)
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control; Control signal used to tune and lock to the correct frequency
AGC	Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude
AM	Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value
AP or A/P	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	External Audio Video
B-SC1-IN	Blue SCART1/EXT1 in
B-SC2-IN	Blue SCART2/EXT2 in
B-TXT	Blue TeleteXT
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band
BOCMA	Bimos one Chip Mid-end Architecture: video and chroma decoder
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (also called PCB or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look-Up Table
COLUMBUS	COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering
ComPair	Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface
CSM	Customer Service Mode
CVBS	Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information
CVBS-EXT	CVBS signal from external source (VCR, VCD, etc.)
CVBS-INT	CVBS signal from internal Tuner
CVBS-MON	CVBS monitor signal
CVBS-TER-OUT	CVBS TERrestrial OUTput signal
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: Owner's manual
DNR	Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set
DRAM	Dynamically refreshed RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool; Special remote control designed for dealers to enter

	e.g. service mode (a DST-emulator is available in ComPair)
DTS	Digital Theatre System; A multi-channel surround sound format, similar to Dolby Digital
DVB	Digital Video Broadcast; A method of transmitting digital audio and video, based on MPEG2
DVB-T	DVB-Terrestrial; HDTV standard for the EU
DVD	Digital Versatile Disc
EEPROM	Electrically Erasable and Programmable Read Only Memory
EPG	Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView)
EU	Europe
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level
FBL-SC1-IN	Fast blanking signal for SCART1 in
FBL-SC2-IN	Fast blanking signal for SCART2 in
FBL-TXT	Fast Blanking Teletext
FM	Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal
FMR	Radio receiver that can receive the FM Band 87.5 - 108 MHz
FRC	Frame Rate Converter
FRONT-C	Front input chrominance (SVHS)
FRONT-DETECT	Control line for detection of headphone insertion, Service Mode jumper, power failure detection
FRONT-Y_CVBS	Front input luminance or CVBS (SVHS)
G-SC1-IN	Green SCART1/EXT1 in
G-SC2-IN	Green SCART2/EXT2 in
G-TXT	Green teletext
H	H_sync to the module
HA	Horizontal Acquisition; horizontal sync pulse
HD	High Definition
HP	HeadPhone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band
I^2C	Integrated IC bus
I^2S	Integrated IC Sound bus
IC	Integrated Circuit
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker.
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences
LATAM	LATin AMerica
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it
LINE-DRIVE	Horizontal (line) deflection drive signal (for the Line transistor)
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LS	LoudSpeaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NC	Not Connected
NICAM	Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory; IC containing data such as alignment values, preset stations
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PIG	Picture In Graphic
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PWB	Printed Wiring Board (also called PCB or CBA)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 or 6	Remote Control system 5 or 6, the signal from the remote control receiver
RGB	Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	SandCastle: two-level pulse derived from sync signals

SC-IN	SCART in
SC-OUT	SCART out
S/C	Short Circuit
SCART	Syndicat des Constructeurs d'Appareils Radiorécepteurs et Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector)
SCL	Serial CLock Signal on I^2C bus
SD	Standard Definition
SDA	Serial DAta Signal on I^2C bus
SDRAM	Synchronous DRAM
SECAM	SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switched Mode Power Supply
SND	SouND
SNDL-SC1-IN	Sound left SCART1 in
SNDL-SC1-OUT	Sound left SCART1 out
SNDL-SC2-IN	Sound left SCART2 in
SNDL-SC2-OUT	Sound left SCART2 out
SNDR-SC1-IN	Sound right SCART1 in
SNDR-SC1-OUT	Sound right SCART1 out
SNDR-SC2-IN	Sound right SCART2 out
SNDR-SC2-OUT	Sound right SCART2 out
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace; This is a consumer interface used to transfer digital audio
SRAM	Static RAM
STBY	STandBY
SVHS	Super Video Home System
SW	Software or Subwoofer or Switch
THD	Total Harmonic Distortion
TXT	Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI)
uP	Microprocessor
VA	Vertical Acquisition
VL	Variable Level out: processed audio output towards external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array; 640x480 (4:3)
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
Y	Luminance signal
Y/C	Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal
YPbPr	This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV
YUV	Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals

9.12 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.12.1 Diagram K1, PNx83xx (IC7100)

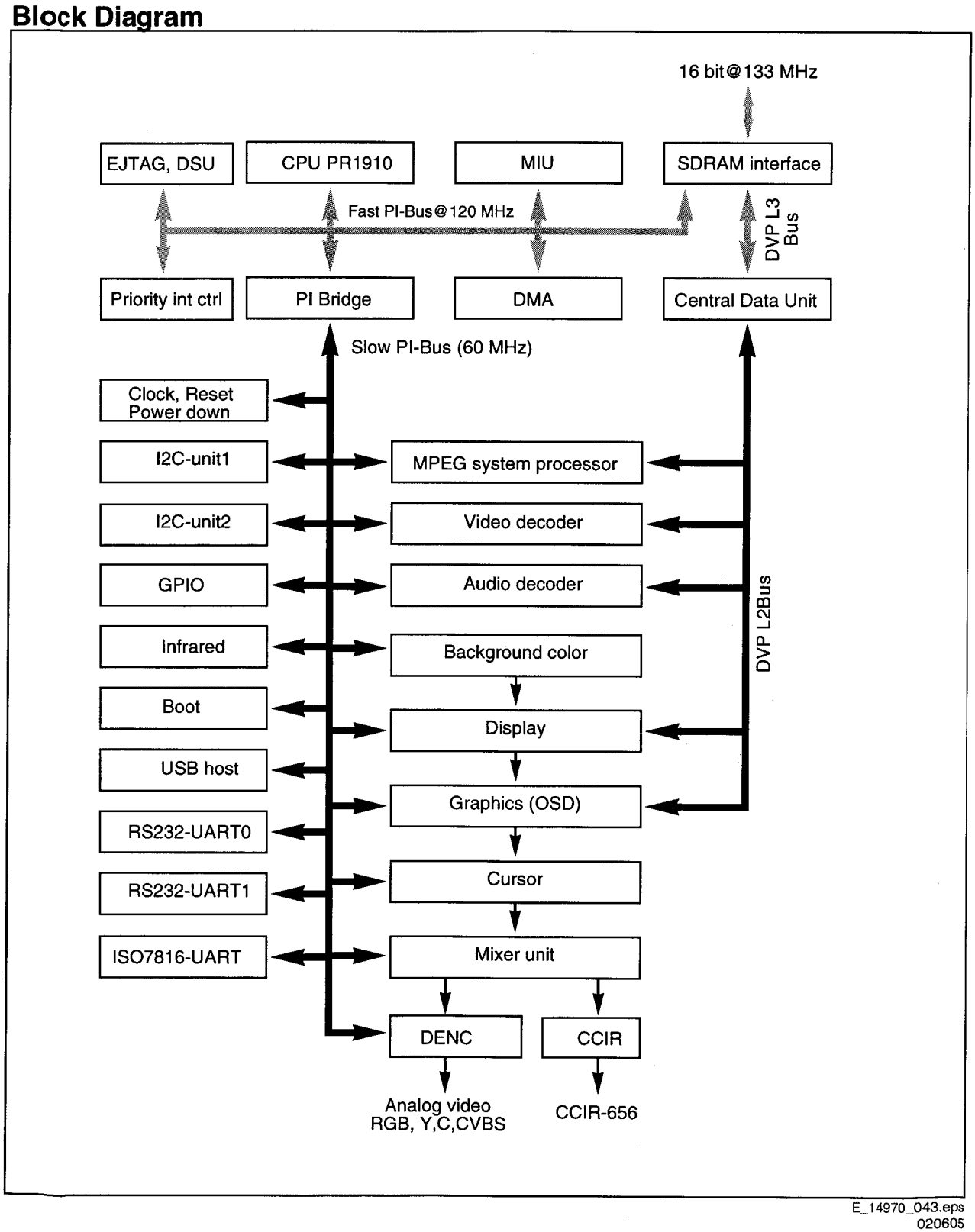

Figure 9-2 PNx831x architecture and data paths

9.12.2 Diagram K6, TDA10046 (IC7600)

Block Diagram

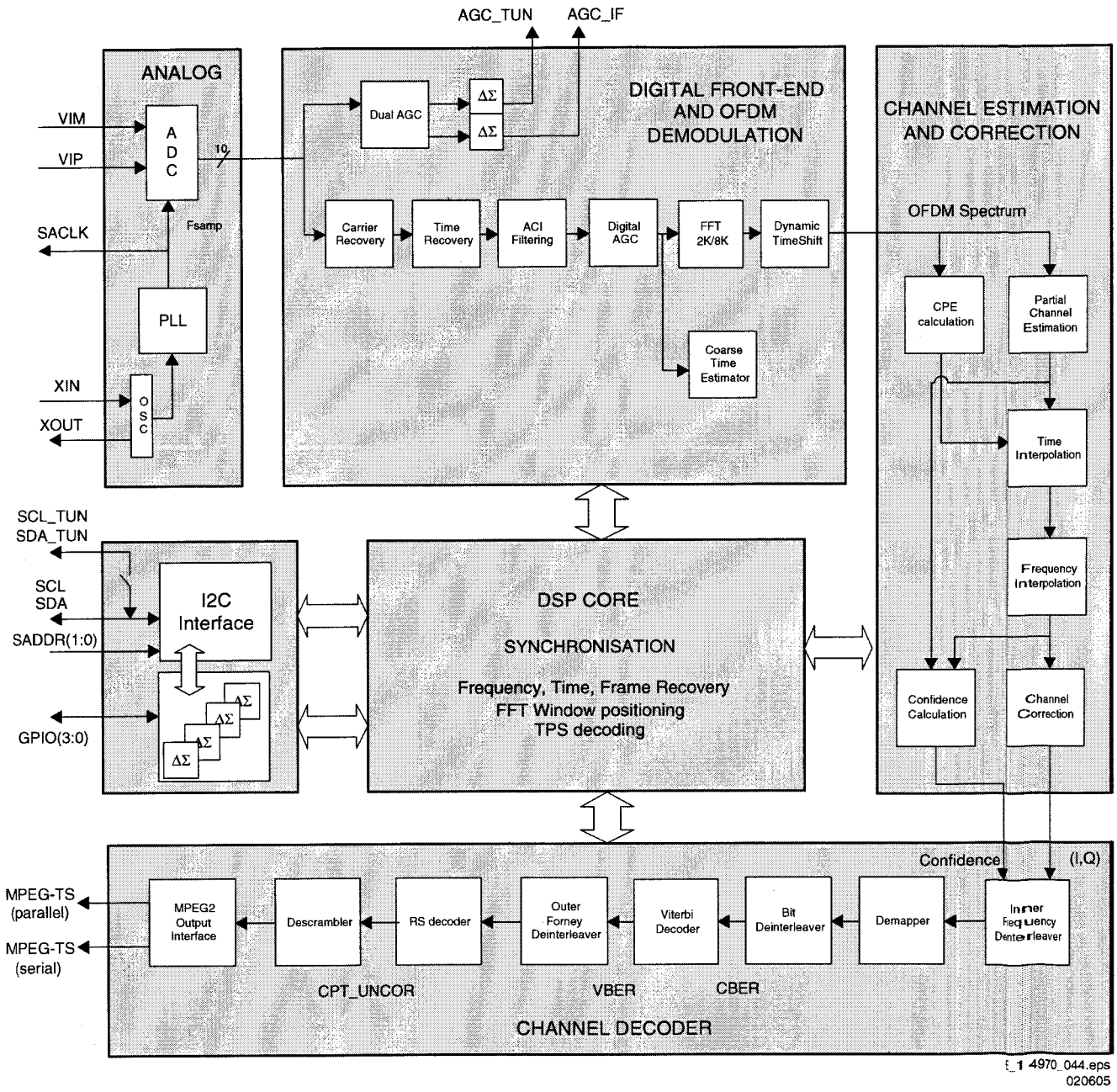

Figure 9-3 Internal blockdiagram TDA10046

10. Spare Parts List

Set Level

Various

1004	8204 000 78181	PDP S42SD-YD07
1004▲	9322 224 88682	PDP PDP42V7A062
1012	3104 328 39571	LED panel LC04SD2
8102	3104 311 03601	Cable 7p/400/7p
8102	3104 311 07241	Cable 7P/1000/7P
8103	3104 311 06511	Cable 10p/280/10p
8103	3104 311 07391	Cable 10P/220/10P
8120▲	3104 311 07421	Cable 6P/680/6P
8146	3104 311 08621	Cable 11P/220/11P
8150	3104 311 08831	Cable 31P/300/31P
8150	3104 311 10493	Cable 31P/220/31P
8152▲	3104 311 09921	Cable 9P/680/9P
8900▲	3104 311 07911	Cable ring/180/ring

Set Level

Various

1014	3104 328 39561	Side control LC04SD2
1116	3104 328 40501	Side I/O Assy LC04SD2
8101	3104 311 10751	Cable 3P/1K7/3P
8136	3104 311 10733	Cable 11P/1K/11P
8735	3104 311 10601	Cable 2P3/1400/POSI
8736	3104 311 10591	Cable 2P3/1000/POSI

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5213	2441 257 30020	Loudspeaker 8Ω 10W
5214	2441 257 30020	Loudspeaker 8Ω 10W

Power Supply Unit [A]

Various

1002	4822 267 10618	Connector 7p
1004	2422 086 00676	Fuse 2A T 250V
1082	2422 086 00677	Fuse 2.5A T 250V
1083	2422 086 00677	Fuse 2.5A T 250V
1084	2422 086 10849	Fuse 1A F 250V
1110	2422 086 00678	Fuse 5A T 250V
1200	2422 086 00676	Fuse 2A T 250V
1260	4822 252 51186	Fuse 2A
1400	4822 070 36302	Fuse 6.3A
1402	4822 252 60151	Surge protect
1450	4822 280 10382	SDT-SS-109DM
1460	4822 280 10382	SDT-SS-109DM
1M03	2422 025 10771	Connector 10p m
1M05	2422 025 16374	Connector 2p m
1M10	2422 025 09406	Connector 4p m
1M46	2422 025 10655	Connector 11p m

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2000	2252 811 95017	470pF 10% 250V
2001	2222 338 22474	470nF 20% 275V
2005	2238 867 18101	100pF 1% 50V 0603
2006	2020 552 96618	1nF 10% 50V 0402
2007	2238 586 59812	100nF 20% 50V 0603
2008	5322 126 11583	10nF 10% 50V 0603
2010	5322 126 11583	10nF 10% 50V 0603
2011	2222 375 24153	15nF 5% 1kV
2012	4822 126 11254	330pF 10% 2kV
2013	4822 126 11254	330pF 10% 2kV
2014	4822 126 13862	1.5nF 10% 2kV
2015	5322 126 11583	10nF 10% 50V 0603
2017	2222 375 24153	15nF 5% 1kV
2018	2238 867 18101	100pF 1% 50V 0603
2019	2252 811 95017	470pF 10% 250V
2020	2020 024 90737	3300µF 20% 100V
2021	2020 024 90737	3300µF 20% 100V
2022	2020 021 91354	1000µF 20% 50V
2023	2222 580 15649	100nF 10% 50V 0805
2024	3198 035 03320	3.3nF 5% 50V 0402
2025	4822 124 12084	1µF 20% 50V
2026	2020 552 96623	2.2nF 10% 50V 0402
2027	2020 552 96631	15nF 10% 16V 0402
2028	2238 930 11541	220pF 5% 200V
2029	2238 930 11541	220pF 5% 200V
2030	2238 586 59812	100nF 20% 50V 0603
2031	2020 552 96628	10nF 10% 16V 0402
2032	2238 586 15641	22nF 10% 50V 0603
2033	2238 586 59812	100nF 20% 50V 0603
2034	4822 126 14525	47pF 5% 1kV
2035	2020 552 96618	1nF 10% 50V 0402
2036	2238 586 15641	22nF 10% 50V 0603
2037	4822 126 14525	47pF 5% 1kV
2038	2020 552 96618	1nF 10% 50V 0402
2039	2020 552 96623	2.2nF 10% 50V 0402
2040	3198 034 02790	47pF 1% 50V 0402
2041	2238 869 15101	100pF 5% 50V 0402
2042	3198 035 03310	330pF 5% 50V 0402
2043	4822 124 12084	1µF 20% 50V
2044	2238 930 11541	220pF 5% 200V
2045	2238 930 11541	220pF 5% 200V
2046	2252 568 08305	33pF 5% 500V
2047	2238 586 59812	100nF 20% 50V 0603
2048	2020 552 96683	220nF 10% 50V
2049	2238 867 18101	100pF 1% 50V 0603
2050	2238 586 15641	22nF 10% 50V 0603
2051	4822 122 33177	10nF 20% 50V
2052	4822 124 12056	1000µF 20% 35V
2053	2022 031 00308	22µF 20% 35V
2054	2020 552 00216	220pF 5% 50V 0402
2055	2020 552 96621	1.5nF 10% 50V 0402
2056	2020 552 00216	220pF 5% 50V 0402
2057	2020 552 96621	1.5nF 10% 50V 0402
2058	4822 124 41828	1µF 20% 250V
2059	2238 586 59812	100nF 20% 50V 0603
2060	2020 552 96683	220nF 10% 50V
2061	2238 586 59812	100nF 20% 50V 0603
2070	2020 552 96618	1nF 10% 50V 0402
2071	2020 552 96618	1nF 10% 50V 0402
2090	2020 021 91729	4.7µF 20% 35V
2112	2020 552 96618	1nF 10% 50V 0402
2113	4822 124 12379	220µF 25V
2114	2020 552 96683	220nF 10% 50V
2118	4822 126 13449	1nF 10% 2kV
2121	2020 024 90736	2200µF 20% 100V
2122	4822 121 51319	1µF 10% 63V
2123	3198 035 03320	3.3nF 5% 50V 0402
2126	2238 586 59812	100nF 20% 50V 0603
2133	4822 124 81151	22µF 50V
2203	2238 586 59812	100nF 20% 50V 0603
2205	2020 021 91729	4.7µF 20% 35V
2210	4822 124 80151	47µF 16V
2211	3198 035 04710	470pF 50V 0402
2212	2020 552 96326	220nF 10% 16V
2213	3198 035 03320	3.3nF 5% 50V 0402
2214	3198 035 03320	3.3nF 5% 50V 0402
2215	3198 035 04710	470pF 50V 0402
2218	2222 375 90141	3.3nF 1.6kV 5%
2222	2238 869 15101	100pF 5% 50V 0402
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 021 91551	2200µF 20% 25V
2226	2238 586 59812	100nF 20% 50V 0603
2227	2238 869 15101	100pF 5% 50V 0402
2229	2020 021 00036	470µF 20% 16V
2230	2020 021 00036	470µF 20% 16V
2231	4822 124 80151	47µF 16V
2232	2238 869 15101	100pF 5% 50V 0402
2234	2022 552 05679	1µF 10% 16V 0805
2236	4822 124 23002	10µF 16V
2237	4822 124 23002	10µF 16V
2263	2222 861 15272	2.7nF 5% 50V 0805
2264	4822 126 14583	470nF 10% 16V 0805
2265	3198 035 03310	330pF 5% 50V 0402
2266	2020 021 91729	4.7µF 20% 35V
2267	5322 122 32531	100pF 5% 50V
2268	2020 552 96683	220nF 10% 50V
2269	4822 123 14025	2200µF 20% 16V
2270	4822 124 40433	47µF 20% 25V
2273	2238 586 59812	100nF 20% 50V 0603
2274	2020 552 96628	10nF 10% 16V 0402
2290	5322 126 11583	10nF 10% 50V 0603
2291	3198 035 04710	470pF 50V 0402
2293	3198 035 04710	470pF 50V 0402
2295	3198 035 04710	470pF 50V 0402
2296	3198 035 04710	470pF 50V 0402
2304	2020 552 96618	1nF 10% 50V 0402
2305	2238 586 59812	100nF 20% 50V 0603
2306	2238 586 59812	100nF 20% 50V 0603
2322	2238 586 59812	100nF 20% 50V 0603
2324	2238 586 59812	100nF 20% 50V 0603
2350	4822 124 12095	100µF 20% 16V
2352	2238 586 59812	100nF 20% 50V 0603
2364	2238 586 59812	100nF 20% 50V 0603
2376	2238 586 59812	100nF 20% 50V 0603
2377	2238 586 59812	100nF 20% 50V 0603
2381	2238 586 59812	100nF 20% 50V 0603
2385	2020 552 96628	10nF 10% 16V 0402
2386	2020 552 96628	10nF 10% 16V 0402
2387	4822 124 12095	100µF 20% 16V
2388	2020 552 96628	10nF 10% 16V 0402
2397	4822 124 12095	100µF 20% 16V
2398	4822 124 23002	10µF 16V
2400	2222 338 22474	470nF 20% 275V
2401	2222 338 22474	470nF 20% 275V
2404	4822 126 14525	47pF 5% 1kV
2405	2252 811 95017	470pF 10% 250V
2406	4822 126 14525	47pF 5% 1kV
2407	2252 811 95017	470pF 10% 250V
2465	4822 124 12095	100µF 20% 16V
2502	2238 869 15101	100pF 5% 50V 0402
2503	2020 024 90708	47µF 400V 20%
2504	2020 552 96618	1nF 10% 50V 0402
2507	2238 869 15101	100pF 5% 50V 0402
2508	4822 124 12095	100µF 20% 16V
2509	2238 869 15101	100pF 5% 50V 0402
2510	2020 021 91506	1000µF 20% 16V
2511	2238 586 59812	100nF 20% 50V 0603
2512	2238 586 59812	100nF 20% 50V 0603
2513	2222 580 15649	100nF 10% 50V 0805
2532	4822 124 12095	100µF 20% 16V
2533	4822 124 12095	100µF 20% 16V
2534	2022 552 05679	1µF 10% 16V 0805
2540	4822 124 12095	100µF 20% 16V
2541	4822 124 12095	100µF 20% 16V
2542	2238 586 59812	100nF 20% 50V 0603
2600	4822 122 33799	1nF 10% 1kV
2601	4822 122 33799	1nF 10% 1kV
2602	2020 552 96623	2.2nF 10% 50V 0402
2603	2222 383 90136	1µF 5% 400V
2605	2222 383 90136	1µF 5% 400V
2608	2020 552 96618	1nF 10% 50V 0402
2610	4822 121 70584	1.8nF 5% 2kV
2611	4822 126 12263	220pF 10% 2kV
2612	2020 552 96618	1nF 10% 50V 0402
2614	2020 552 96623	2.2nF 10% 50V 0402
2616	4822 124 12415	220µF 20% 400V
2617	4822 124 12415	220µF 20% 400V
2640	3198 035 04710	470pF 50V 0402
2642	2020 552 96618	1nF 10% 50V 0402
2651	2020 552 96628	10nF 10% 16V 0402
2653	3198 035 06810	680pF 5% 50V 0402
2654	4822 124 80151	47µF 16V
2655	2022 552 05679	1µF 10% 16V 0805
2656	2222 580 15649	100nF 10% 50V 0805
2660	4822 126 13881	470pF 5% 50V
2661	2020 552 96618	1nF 10% 50V 0402
2662	4822 124 80061	1000µF 20% 25V
2663	4822 121 51319	1µF 10% 63V
2664	4822 124 40255	100µF 20% 63V
2665	4822 126 13881	470pF 5% 50V
2666	2020 552 96793	4.7nF 10% 50V 0402
2670	2238 586 59812	100nF 20% 50V 0603
2671	2238 586 59812	100nF 20% 50V 0603
2672	2222 580 15649	100nF 10% 50V 0805
2673	2020 558 90621	10nF 630V
2674	2020 558 90621	10nF 630V
2675	2020 558 90621	10nF 630V
2676	2020 558 90621	10nF 630V
2677	2020 552 96623	2.2nF 10% 50V 0402
2690	2020 552 96618	1nF 10% 50V 0402

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3001	4822 051 30471	47Ω 5% 0.062W
3002	4822 051 30471	47Ω 5% 0.062W
3003	4822 117 11297	100kΩ 5% 0.1W
3004	3198 031 01530	15kΩ 5% 0.01W 0402
3005	3198 031 02730	27kΩ 5% 0402
3006	4822 117 13606	10kΩ 5% 0.01W 0402
3007	3198 031 04720	4.7kΩ 5% 0402
3008	4822 051 30102	1kΩ 5% 0.062W
3009	4822 051 30102	1kΩ 5% 0.062W
3010	3198 031 01530	15kΩ 5% 0.01W 0402
3011	4822 051 30561	560Ω 5% 0.062W
3012	3198 031 04720	4.7kΩ 5% 0402
3013	4822 117 13606	10kΩ 5% 0.01W 0402
3014	4822 050 23309	33Ω 1% 0,6W
3015	4822 050 21009	10Ω 1% 0.6W
3016	4822 051 10102	1kΩ 2% 0.25W
3017	4822 050 23309	33Ω 1% 0,6W
3018	4822 050 21009	10Ω 1% 0.6W
3019	4822 051 10102	1kΩ 2% 0.25W
3020	3198 031 05630	56kΩ 5% 0402
3022	4822 051 30681	680Ω 5% 0.062W
3023	3198 031 04730	47Ω 5% 0402

3024	4822 117 12306	150kΩ 1% 0.1W
3025	2322 706 71802	1.8kΩ 5% 0402
3026	4822 051 20684	680kΩ 5% 0.1W
3027	3198 031 04730	47Ω 5% 0402
3028	2322 704 67502	7.5kΩ 1% 0.5W
3029	4822 051 30123	12kΩ 5% 0.1W
3030	3198 031 01830	18kΩ 5% 0.01W 0402
3031	2322 706 71003	10kΩ 5% 0402
3032	2322 706 71003	10kΩ 5% 0402
3033	2322 705 70184	180Ω 5% 0402
3034	4822 117 13596	220Ω 5% 0.01W 0402
3035	4822 051 20684	680kΩ 5% 0.1W
3036	2122 612 00068	NTC 1Ω 20% 6W
3037	4822 117 13606	10kΩ 5% 0.01W 0402
3038	4822 117 11297	100kΩ 5% 0.1W
3039	4822 051 30105	1MΩ 5% 0.062W
3040	4822 117 10837	100kΩ 1% 0.1W
3041	4822 117 13603	33kΩ 5% 0402
3042	4822 051 30471	47Ω 5% 0.062W
3043	3198 031 04720	4.7kΩ 5% 0402
3044	4822 051 30102	1kΩ 5% 0.062W
3045	4822 051 30102	1kΩ 5% 0.062W
3046	4822 053 20565	5.6MΩ 5% 0.25W
3047	3198 031 01540	150kΩ 5% 0402
3048	3198 031 04720	4.7kΩ 5% 0402
3049	3198 031 01230	12kΩ 5% 0402
3050	4822 052 10398	3.9Ω 5% 0,33W
3051	4822 051 20822	8.2kΩ 5% 0.1W
3052	4822 117 12306	150kΩ 1% 0.1W
3053	2322 662 93131	PTC 10Ω
3054	4822 117 13543	470Ω 5% 0402
3055	4822 117 10833	10kΩ 1% 0.1W
3056	4822 051 30331	330Ω 5% 0.062W
3057	4822 051 30101	100Ω 5% 0.062W
3058	4822 051 20105	1MΩ 5% 0.1W
3059	3198 031 05630	56kΩ 5% 0402
3060	4822 050 22204	220kΩ 1% 0.6W
3061	3198 031 01830	18kΩ 5% 0.01W 0402
3062	4822 117 13548	1kΩ 5% 0402
3063	4822 117 13548	1kΩ 5% 0402
3064	4822 117 13606	10kΩ 5% 0.01W 0402
3065	4822 117 13548	1kΩ 5% 0402
3066	4822 117 13606	10kΩ 5% 0.01W 0402
3067	3198 031 01530	15kΩ 5% 0.01W 0402
3068	4822 117 13606	10kΩ 5% 0.01W 0402
3069	4822 051 30471	47Ω 5% 0.062W
3070	4822 051 30103	10kΩ 5% 0.062W
3071	3198 031 04730	47Ω 5% 0402
3073	3198 031 01050	1MΩ 5% 0402
3074	3198 031 01530	15kΩ 5% 0.01W 0402
3075	4822 051 20105	1MΩ 5% 0.1W
3076	4822 117 11297	100kΩ 5% 0.1W
3077	4822 051 20105	1MΩ 5% 0.1W
3078	4822 117 11297	100kΩ 5% 0.1W
3079	4822 051 30681	680Ω 5% 0.062W
3080	4822 051 30681	680Ω 5% 0.062W
3081	3198 031 01520	1.2kΩ 5% 0.01W 0402
3082	3198 031 01520	1.2kΩ 5% 0.01W 0402
3083	2312 915 11002	1kΩ 1% 0.5W
3084	4822 117 13606	10kΩ 5% 0.01W 0402
3085	3198 031 04730	47Ω 5% 0402
3086	3198 031 04730	47Ω 5% 0402
3087	3198 031 04730	47Ω 5% 0402
3088	3198 031 04730	47Ω 5% 0402
3089	4822 117 13606	10kΩ 5% 0.01W 0402
3090	4822 117 13545	100Ω 1% 0402
3091	4822 051 30102	1kΩ 5% 0.062W
3092	4822 051 10102	1kΩ 2% 0.25W
3093	4822 117 13548	1kΩ 5% 0402
3094	4822 051 10102	1kΩ 2% 0.25W
3095	4822 117 13543	470Ω 5% 0402
3096	3198 031 05620	5.6kΩ 5% 0.01W 0402
3097	3198 031 08210	820Ω 5% 0.5W
3098	4822 117 13548	1kΩ 5% 0402
3100	2322 706 71002	1kΩ 1% 0402
3101	2322 706 71002	1kΩ 1% 0402
3102	2322 706 71002	1kΩ 1% 0402
3103	2322 706 71002	1kΩ 1% 0402
3104	2322 706 71002	1kΩ 1% 0402
3106	4822 117 12955	2.7kΩ 1% 0.1W 0805
3107	4822 117 12955	2.7kΩ 1% 0.1W 0805
3108	4822 117 12955	2.7kΩ 1% 0.1W 0805
3109	4822 117 12955	2.7kΩ 1% 0.1W 0805
3110	4822 117 13548	1kΩ 5% 0402
3112	4822 051 30102	1kΩ 5% 0.062W
3114	2322 705 70564	560kΩ 5% 0402
3115	3198 031 02240	220kΩ 5% 0.1W 0402
3116	4822 117 13548	1kΩ 5% 0402
3117	4822 117 13606	10kΩ 5% 0.01W 0402
3118	2122 118 06084	0.051Ω 5% 1W 2512
3120	3198 021 31820	1.8kΩ 5% 0.062W 0603
3121	3198 031 04730	47Ω 5% 0402
3123	4822 117 10965	18kΩ 1% 0.1W
3124	2322 704 67502	7.5kΩ 1% 0.5W
3125	2322 704 67502	7.5kΩ 1% 0.5W
3126	2322 706 72202	2.2kΩ 5% 0402
3128	4822 117 13603	33kΩ 5% 0402
3130	4822 051 30123	12kΩ 5% 0.1W
3131	2322 706 71003	10kΩ 5% 0402
3132	4822 117 13596	220Ω 5% 0.01W 0402
3133	4822 051 30101	100Ω 5% 0.062W
3134	4822 051 30681	680Ω 5% 0.062W
3135	3198 031 04730	47Ω 5% 0402
3136	3198 031 04730	47Ω 5% 0402
3143	4822 053 12472	4.7kΩ 5% 3W
3147	2322 706 71003	10kΩ 5% 0402
3149	4822 052 10478	4.7Ω 5% 0.33W
3150	3198 031 01050	1MΩ 5% 0402
3200	4822 051 20334	330kΩ 5% 0.1W
3202	4822 051 30479	47Ω 5% 0.062W
3203	4822 051 30101	100Ω 5% 0.062W
3204	4822 117 11297	100kΩ 5% 0.1W
3205	3198 031 01540	150kΩ 5% 0402
3206	4822 117 12955	2.7kΩ 1% 0.1W 0805
3207	4822 117 12955	2.7kΩ 1% 0.1W 0805
3208	4822 117 12955	2.7kΩ 1% 0.1W 0805
3209	4822 117 12955	2.7kΩ 1% 0.1W 0805
3210	2322 706 71002	1kΩ 1% 0402
3212	4822 051 30102	1kΩ 5% 0.062W
3213	4822 117 13603	33kΩ 5% 0402
3214	2322 705 70124	120kΩ 5% 0402
3215	2322 705 70274	270kΩ 5% 0402
3216	4822 117 13548	1kΩ 5% 0402
3217	4822 117 13606	10kΩ 5% 0.01W 0402
3218	2122 118 06084	0.051Ω 5% 1W 2512
3219	4822 117 13606	10kΩ 5% 0.01W 0402
3220	4822 050 23309	33Ω 1% 0,6W
3224	2322 706 71203	12kΩ 5% 0402
3225	2322 706 71003	10kΩ 5% 0402
3226	4822 117 13606	10kΩ 5% 0.01W 0402
3228	4822 051 30151	150Ω 5% 0.062W
3262	2322 706 71003	10kΩ 5% 0402
3263	2322 706 71003	10kΩ 5% 0402
3265	4822 117 13548	1kΩ 5% 0402
3268	4822 117 13548	1kΩ 5% 0402
3269	3198 031 02720	2.7kΩ 5% 0.01W 0402
3292	4822 051 30561	560Ω 5% 0.062W
3300	2322 706 72204	220kΩ 5% 0402
3301	2322 706 72204	220kΩ 5% 0402
3304	4822 051 30102	1kΩ 5% 0.062W
3306	2322 706 71003	10kΩ 5% 0402
3307	5322 117 13028	12kΩ 1% 0.063W 0603
3308	4822 051 30102	1kΩ 5% 0.062W
3311	4822 117 13579	220kΩ 1% 0.1W 0805
3312	4822 051 30102	1kΩ 5% 0.062W
3313	2322 704 67502	7.5kΩ 1% 0.5W
3317	2322 704 67502	7.5kΩ 1% 0.5W
3320	2322 706 71003	10kΩ 5% 0402
3321	4822 051 30102	1kΩ 5% 0.062W
3322	2322 706 73902	3.9kΩ 1% 0402
3323	2322 706 71003	10kΩ 5% 0402
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 051 30471	47Ω 5% 0.062W
3326	3198 031 04720	4.7kΩ 5% 0402
3327	4822 117 13606	10kΩ 5% 0.01W 0402
3328	4822 051 30103	10kΩ 5% 0.062W
3332	2322 706 76803	68kΩ 5% 0402
3333	4822 051 30102	1kΩ 5% 0.062W
3334	2322 706 71003	10kΩ 5% 0402
3335	2322 706 71503	15kΩ 5% 1W 0402
3340	4822 051 30102	1kΩ 5% 0.062W
3341	4822 117 13606	10kΩ 5% 0.01W 0402
3342	4822 051 30103	10kΩ 5% 0.062W
3343	4822 051 30102	1kΩ 5% 0.062W
3344	4822 051 30102	1kΩ 5% 0.062W
3345	4822 117 13548	1kΩ 5% 0402
3346	4822 117 13548	1kΩ 5% 0402
3347	4822 051 30331	330Ω 5% 0.062W
3348	4822 051 30331	330Ω 5% 0.062W
3349	4822 051 30102	1kΩ 5% 0.062W
3350	4822 051 30472	4.7Ω 5% 0.062W
3351	4822 051 30103	10kΩ 5% 0.062W
3352	4822 051 30103	10kΩ 5% 0.062W
3353	4822 117 13606	10kΩ 5% 0.01W 0402
3354	3198 031 04720	4.7kΩ 5% 0402
3358	4822 051 30222	2.2kΩ 5% 0.062W
3359	3198 031 05620	5.6kΩ 5% 0.01W 0402
3360	3198 031 01220	1.2kΩ 5% 0.01W 0402
3361	3198 031 04720	4.7kΩ 5% 0402
3362	3198 031 02720	2.7kΩ 5% 0.01W 0402
3363	4822 051 30102	1kΩ 5% 0.062W
3364	4822 051 30272	2.7kΩ 5% 0.062W
3366	4822 117 13606	10kΩ 5% 0.01W 0402
3367	4822 051 30103	10kΩ 5% 0.062W
3369	3198 031 04720	4.7kΩ 5% 0402
3370	2322 675 20907	PTC 470Ω 50% 25V 0805
3373	3198 031 04720	4.7kΩ 5% 0402
3374	3198 031 04730	47Ω 5% 0402
3376	3198 031 04730	47Ω 5% 0402
3377	3198 031 04720	4.7kΩ 5% 0402
3378	4822 117 13606	10kΩ 5% 0.01W 0402
3380	3198 031 04730	47Ω 5% 0402
3381	3198 031 04730	47Ω 5% 0402
3383	4822 117 13606	10kΩ 5% 0.01W 0402
3384	4822 117 13606	10kΩ 5% 0.01W 0402
3386	4822 051 30101	100Ω 5% 0.062W
3388	4822 051 30102	1kΩ 5% 0.062W
3389	4822 051 30102	1kΩ 5% 0.062W
3390	4822 117 13548	1kΩ 5% 0402
3391	4822 117 13606	10kΩ 5% 0.01W 0402
3392	3198 031 04730	47Ω 5% 0402
3393	3198 031 04730	47Ω 5% 0402
3394	3198 031 04730	47Ω 5% 0402
3395	3198 031 01540	150kΩ 5% 0402
3397	3198 031 04730	47Ω 5% 0402
3398	3198 031 04730	47Ω 5% 0402
3399	3198 031 05620	5.6kΩ 5% 0.01W 0402
3400	2122 550 00158	VDR 1mA 612V
3401	4822 117 10118	1MΩ 5% 0.5W
3404	4822 116 83872	220Ω 5% 0.5W
3450	2322 662 93131	PTC 10Ω
3451	2322 662 93131	PTC 10Ω
3452	2122 612 00068	NTC 1Ω 20% 6W
3460	4822 117 13602	2.2kΩ 5% 0.01W 0402
3461	4822 117 13606	10kΩ 5% 0.01W 0402
3463	4822 117 13606	10kΩ 5% 0.01W 0402
3465	4822 117 13606	10kΩ 5% 0.01W 0402
3467	4822 117 13606	10kΩ 5% 0.01W 0402
3469	3198 031 04720	4.7kΩ 5% 0402
3470	4822 117 13606	10kΩ 5% 0.01W 0402
3471	4822 117 13548	1kΩ 5% 0402
3472	4822 117 13548	1kΩ 5% 0402
3501	4822 051 30102	1kΩ 5% 0.062W
3502	4822 051 30471	47Ω 5% 0.062W
3503	2322 706 74702	4.7kΩ 5% 0402
3504	2322 706 73303	33kΩ 5% 0402
3505	2322 706 74702	4.7kΩ 5% 0402
3506	2322 662 93131	PTC 10Ω
3507	4822 051 20684	680kΩ 5% 0.1W
3509	2312 915 11209	12Ω 1% 0.5W
3603	4822 051 20474	470kΩ 5% 0.1W
3604	4822 051 20474	470kΩ 5% 0.1W
3605	4822 051 20474	470kΩ 5% 0.1W
3606	4822 051 30101	100Ω 5% 0.062W
3607	4822 117 12891	220kΩ 1%
3608	2312 915 11209	12Ω 1% 0.5W
3609	4822 051 20474	470kΩ 5% 0.1W
3610	4822 050 23308	3.3Ω 1% 0.6W
3611	4822 050 21003	10kΩ 1% 0.6W
3613	4822 117 13606	10kΩ 5% 0.01W 0402
3614	2322 194 95001	0.27Ω 5% 2W
3615	2322 194 95001	0.27Ω 5% 2W
3616	3198 031 01230	12kΩ 5% 0402
3617	3198 031 04730	47Ω 5% 0402
3618	4822 117 13603	33kΩ 5% 0402
3619	3198 031 03320	3.3kΩ 5% 0402
3620	2322 194 95001	0.27Ω 5% 2W
3621	4822 050 22208	2.2Ω 1% 0,6W
3622	4822 050 22208	2.2Ω 1% 0,6W
3623	4822 117 13548	1kΩ 5% 0402
3639	4822 051 10102	1kΩ 2% 0.25W
3640	4822 051 30331	330Ω 5% 0.062W
3641	4822 051 20471	470Ω 5% 0.1W
3642	4822 117 11503	220Ω 1% 0.1W
3643	4822 117 11503	220Ω 1% 0.1W
3651	4822 117 13601	22kΩ 5% 0402
3652	3198 031 01050	1MΩ 5% 0402
3654	4822 117 13606	10kΩ 5% 0.01W 0402
3655	4822 117 13548	1kΩ 5% 0402
3656	3198 031 01820	1.8kΩ 5% 0.01W 0402
3659	4822 117 11503	220Ω 1% 0.1W
3660	4822 117 11504	270Ω 1% 0.1W
3661	4822 117 11504	270Ω 1% 0.1W
3663	4822 052 10108	1Ω 5% 0.33W
3664	2322 706 71204	120kΩ 5% 0402
3665	2322 705 70274	270kΩ 5% 0402
3666	4822 051 30101	100Ω 5% 0.062W
3668	4822 052 11102	1kΩ 5% 0.5W
3669	2322 706 71204	120kΩ 5% 0402
3671	2322 706 71003	10kΩ 5% 0402
3673	4822 052 11102	1kΩ 5% 0.5W
3675	2322 702 60158	1.5Ω
3676	2322 706 74702	4.7kΩ 5% 0402
3677	2322 706 74703	47kΩ 1% 0402
3678	3198 031 04730	47Ω 5% 0402
3679	4822 117 12306	150kΩ 1% 0.1W
3680	4822 117 13579	220kΩ 1% 0.1W 0805
3681	4822 117 13579	220kΩ 1% 0.1W 0805
3682	4822 117 13579	220kΩ 1% 0.1W 0805
3683	4822 051 20334	330kΩ 5% 0.1W
3684	4822 051 20334	330kΩ 5% 0.1W
3685	4822 051 20334	330kΩ 5% 0.1W

3686	4822 117 12971	15Ω 5% 0603 0.62W
3690	3198 031 03920	3.9kΩ 5% 0402
3691	3198 031 08220	8.2kΩ 5% 0.5W
3692	4822 117 13606	10kΩ 5% 0.01W 0402
3693	4822 117 13602	2.2kΩ 5% 0.01W 0402
3806	4822 117 13543	470Ω 5% 0402
3807	4822 117 13606	10kΩ 5% 0.01W 0402
3808	4822 117 13606	10kΩ 5% 0.01W 0402
3809	3198 031 02730	27kΩ 5% 0402
3811	4822 117 13545	100Ω 1% 0402
3999	4822 117 13548	1kΩ 5% 0402
9001	4822 051 20008	Jumper 0805
9020	4822 051 20008	Jumper 0805
9028	4822 117 13605	Jumper 0402

5001	2422 531 02444	Transf. S13932-04Y
5002▲	3104 308 21022	Transf. BS42315-02
5004▲	3104 308 21022	Transf. BS42315-02
5005	3122 138 38901	Mains filter CU28D3
5121	3104 308 20771	Bridge coil BD21232-00
5220	3104 308 20911	Transf. BS29238-00
5225	2422 536 00672	4.7µH 20%
5229	2422 536 00826	220µH 10%
5290	3104 308 21171	Transf. BD15403-00
5291	4822 157 11737	22µH 10%
5292	4822 157 11737	22µH 10%
5293	4822 157 11737	22µH 10%
5401	3122 138 38901	Mains filter CU28D3
5402	3122 138 38901	Mains filter CU28D3
5500	2422 531 00102	Transf. BS16510-01 Y
5503	2422 535 94639	10µH 20%
5600	3104 308 20821	Coil BS42228-00 B
5601	4822 157 11411	Bead 80Ω at 100MHz
5612	4822 157 11411	Bead 80Ω at 100MHz
5660	4822 157 51192	220µH 10%

6002	4822 130 11397	BAS316
6003	9340 548 71115	PDZ33B
6004	4822 130 11397	BAS316
6005	4822 130 11397	BAS316
6006	4822 130 11397	BAS316
6007	4822 130 11397	BAS316
6008	4822 130 11397	BAS316
6009	4822 130 11397	BAS316
6010	4822 130 11397	BAS316
6011	4822 130 11397	BAS316
6012	3198 020 55680	BZX384-C5V6
6018	4822 130 11397	BAS316
6019	4822 130 11397	BAS316
6021	4822 130 32961	BYV28-200
6023	4822 130 11397	BAS316
6027	4822 130 11397	BAS316
6028	4822 130 11397	BAS316
6029	4822 130 11416	PDZ6.8B
6031	3198 020 55680	BZX384-C5V6
6032	3198 020 55680	BZX384-C5V6
6033	9322 150 18685	BZX384-C47
6034	4822 130 11397	BAS316
6035	4822 130 11397	BAS316
6042	9322 150 18685	BZX384-C47
6044	9322 202 88687	STTH2003CFP
6045	4822 130 32961	BYV28-200
6050	4822 130 11152	UDZ18B
6054	9340 553 52115	BAS321
6055	9340 553 52115	BAS321
6061	4822 130 11152	UDZ18B
6062	4822 130 11152	UDZ18B
6075	9340 292 80135	BZG03-C270
6077	9340 292 80135	BZG03-C270
6086	4822 130 11397	BAS316
6111	9340 553 52115	BAS321
6112	9340 553 52115	BAS321
6113	4822 130 11397	BAS316
6114	4822 130 11416	PDZ6.8B
6117	4822 130 11152	UDZ18B
6120	9322 202 75687	BYW29FP-200
6123	4822 130 11397	BAS316
6133	4822 130 11397	BAS316
6142	9322 192 15668	SM S3J
6201	3198 020 55680	BZX384-C5V6
6202	4822 130 11397	BAS316
6204	3198 020 55680	BZX384-C5V6
6205	4822 130 11152	UDZ18B
6206	4822 130 11397	BAS316
6211	9322 202 55685	BYG22D
6213	4822 130 11397	BAS316
6216	4822 130 11152	UDZ18B
6225	9322 173 47687	STPS20L40CFP
6230	9322 155 79685	EC31QS04
6267	4822 130 82627	SB540
6269	9322 099 61685	BYG10J
6270	9322 099 61685	BYG10J
6291	4822 130 11572	STPS8H100F
6292	4822 130 11572	STPS8H100F
6312	4822 130 80622	BAT54
6313	4822 130 80622	BAT54
6321	4822 130 80622	BAT54
6322	4822 130 80622	BAT54
6325	4822 130 11416	PDZ6.8B
6333	4822 130 80622	BAT54
6334	4822 130 80622	BAT54
6335	4822 130 11397	BAS316
6340	4822 130 80622	BAT54
6341	4822 130 80622	BAT54
6344	4822 130 10838	UDZ3.3B
6347	4822 130 80622	BAT54
6362	4822 130 11397	BAS316
6364	4822 130 11397	BAS316
6365	4822 130 11397	BAS316
6366	4822 130 11397	BAS316
6367	4822 130 11397	BAS316
6375	4822 130 11397	BAS316
6376	4822 130 11397	BAS316
6378	4822 130 80622	BAT54
6460	4822 130 11397	BAS316
6461	4822 130 11397	BAS316
6470	4822 130 11397	BAS316
6471	4822 130 11397	BAS316
6501	9322 218 64673	BZT03C200
6502	9322 218 64673	BZT03C200
6503	9322 176 76668	RS1J
6504	9322 176 76668	RS1J
6505	9322 155 79685	EC31QS04
6506	9322 218 64673	BZT03C200
6507	9322 155 79685	EC31QS04
6508	9322 128 69685	S1D
6510	9322 099 61685	BYG10J
6511	9322 099 61685	BYG10J
6512	9322 099 61685	BYG10J
6513	9322 099 61685	BYG10J
6600	9322 177 84667	GBU8JL-7014
6601	9322 150 17685	BZX384-C39
6602	4822 130 11522	UDZ15B
6605	9322 192 15668	SM S3J
6606	9322 192 15668	SM S3J
6608	9322 128 70685	SMSS14
6609	9322 208 81685	BZG05C18
6611	3139 120 52021	BYV29X-500
6640	9322 128 70685	SMSS14
6641	4822 130 11397	BAS316
6642	9322 128 70685	SMSS14
6643	4822 130 11152	UDZ18B
6651	4822 130 80622	BAT54
6652	9322 128 70685	SMSS14
6653	4822 130 10837	UDZS8.2B
6654	4822 130 11397	BAS316
6660	9322 202 55685	BYG22D
6661	9322 202 55685	BYG22D
6663	9322 198 81685	SL04
6665	9322 198 81685	SL04
6666	4822 130 10837	UDZS8.2B

7001	9322 108 21682	MC34067P
7002	9322 149 04682	TCET1102
7003	9322 149 04682	TCET1102
7004	9322 192 17685	P0102BL
7005	9322 192 18687	STP15NK50ZFP
7006	9322 192 18687	STP15NK50ZFP
7007	4822 130 41246	BC327-25
7008	4822 130 41246	BC327-25
7009	3198 010 42310	BC847BW
7010	9322 192 16685	TS2431AI
7011	9322 192 16685	TS2431AI
7012	3198 010 42310	BC847BW
7013	5322 130 63033	BCP56
7017	3198 010 42320	BC857BW
7018	3198 010 42310	BC847BW
7020	9335 671 30126	BC517
7021	9335 671 30126	BC517
7042	9340 308 50135	PMST5401
7050	9340 557 16127	PSMN035-150P
7052	9340 557 58118	PSMN063-150D
7058	3198 010 42310	BC847BW
7059	9340 308 60135	PMST5550
7090	3198 010 42320	BC857BW
7091	3198 010 42320	BC857BW
7092	3198 010 44350	BC807-25W
7093	4822 209 80591	LM317T
7110	9340 308 50135	PMST5401
7112	9352 673 56112	TEA1507p/N1
7117	9340 557 17118	PSMN035-150B
7120	9322 149 04682	TCET1102
7121	9322 192 16685	TS2431AI
7130	9322 192 16685	TS2431AI
7134	3198 010 42310	BC847BW
7200	9340 565 06215	BSH114
7202	9965 000 04199	BSN20
7212	9352 673 56112	TEA1507p/N1
7217	9340 557 18127	PSMN070-200P
7220	9322 149 04682	TCET1102
7227	9322 192 16685	TS2431AI
7230	9322 205 64687	L4940P85
7260	9322 166 31682	L4973V3.3
7304	9322 192 16685	TS2431AI
7308	9322 213 35668	LM339P
7326	3198 010 42310	BC847BW
7327	3198 010 42310	BC847BW
7330	9322 213 35668	LM339P
7341	3198 010 42320	BC857BW
7348	3198 010 42310	BC847BW
7351	3198 010 42310	BC847BW
7352	3198 010 42310	BC847BW
7362	3198 010 42310	BC847BW
7363	3198 010 42310	BC847BW
7366	9322 213 19668	LM324APW
7375	3198 010 42310	BC847BW
7376	3198 010 42310	BC847BW
7391	3198 010 42320	BC857BW
7460	9340 219 30115	BC817-25W
7461	4822 130 60142	BC869
7465	3198 010 42320	BC857BW
7470	9340 219 30115	BC817-25W
7500	9322 037 99682	TNY256P
7501	9322 149 04682	TCET1102
7502	9322 192 16685	TS2431AI
7540	4822 209 17398	LD1117DT33
7601	3198 010 42310	BC847BW
7602	3198 010 42320	BC857BW
7608	5322 130 44593	BC369
7610	9322 223 21687	STW29NK50Z
7640	9965 000 04199	BSN20
7641	9340 219 30115	BC817-25W
7650	9322 130 69682	MC33368P
7654	3198 010 42320	BC857BW
7655	3198 010 42310	BC847BW
7656	3198 010 42310	BC847BW
7661	5322 209 90529	MC34063AD

Small Signal Board [B]

Various

1062	2422 549 00148	Socket 3p m
1062▲	2422 549 00151	Socket 3p m
1101	2422 025 18749	Connector 3p m
1102	3139 147 19801	Tuner UV1318S/A IH-3
1104	2422 549 44372	SAW 38.9MHz K3953L
1106	2422 549 44369	SAW 38.9MHz K9656L
1107	2422 025 18749	Connector 3p m
1202	2422 543 01414	Xtal 24.576MHz
1801	2422 543 01133	Xtal 14.32MHz 20pF
1F00	2422 033 00515	Socket DVI-I 29p f
1F01	2422 026 05703	Socket 1P f
1G01	2422 025 18959	Socket 21P f shd
1G02	2422 025 18959	Socket 21P f shd
1J00	2422 025 10771	Connector 10p m
1J01	2422 025 10655	Connector 11p m
1J04	2422 025 10769	Connector 9p m
1J07▲	2422 086 11081	Fuse T3A 125V
1J08▲	2422 086 11105	Fuse F630mA 50V
1K00	2422 025 08149	Connector 6p m
1K02	2422 025 10768	Connector 3p m
1K04	2422 025 10655	Connector 11p m
1N01	2422 025 17274	Connector 10p m
1N02	2422 025 18779	Connector 4P m
1N05	2722 171 08825	Xtal 14.31818Mhz 15p F
1P01	2422 549 45325	Bead 67Ω at 100MHz
1P02	2422 549 45325	Bead 67Ω at 100MHz
1P03	2422 549 45325	Bead 67Ω at 100MHz
1P04	2422 549 45325	Bead 67Ω at 100MHz
1P05	2422 549 45325	Bead 67Ω at 100MHz
1P07	2422 025 18427	Connector 31p f
8321	3104 311 08731	Cable POSI/100/POS

2101	4822 124 12095	100µF 20% 16V
2102	5322 126 11583	10nF 10% 50V 0603
2103	5322 126 11583	10nF 10% 50V 0603
2104	4822 122 33761	22pF 5% 50V

2105	4822 122 33761	22pF 5% 50V
2106	5322 126 11583	10nF 10% 50V 0603
2107	3198 024 44730	47nF 50V 0603
2109	5322 124 41945	22µF 20% 35V
2113	4822 124 12095	100µF 20% 16V
2203	4822 124 23002	10µF 16V
2206	2020 552 00035	2.2µF 6.3V 10% 0603
2207	2020 552 96718	220nF 10% 6.3V 0402
2208	4822 124 12084	1µF 20% 50V
2209	4822 124 23002	10µF 16V
2210	2020 552 96718	220nF 10% 6.3V 0402
2211	2020 552 96628	10nF 10% 16V 0402
2214	2020 552 96618	1nF 10% 50V 0402
2216	2020 552 96618	1nF 10% 50V 0402
2218	3198 035 71040	100nF 10% 16V 0402
2221	4822 124 12095	100µF 20% 16V
2223	2238 869 15101	100pF 5% 50V 0402
2225	2020 552 96618	1nF 10% 50V 0402
2226	3198 035 03320	3.3nF 5% 50V 0402
2227	2020 552 96618	1nF 10% 50V 0402
2228	3198 035 71040	100nF 10% 16V 0402
2230	3198 035 71040	100nF 10% 16V 0402
2231	2020 552 96718	220nF 10% 6.3V 0402
2232	3198 035 71040	100nF 10% 16V 0402
2233	4822 124 23002	10µF 16V
2234	2020 552 96718	220nF 10% 6.3V 0402
2235	2020 552 96718	220nF 10% 6.3V 0402
2236	4822 126 14076	220nF +80/-20% 25V
2237	2020 552 96718	220nF 10% 6.3V 0402
2238	2020 552 96718	220nF 10% 6.3V 0402
2239	3198 035 71040	100nF 10% 16V 0402
2240	2020 552 96718	220nF 10% 6.3V 0402
2241	2020 552 96718	220nF 10% 6.3V 0402
2242	3198 035 71040	100nF 10% 16V 0402
2243	4822 124 23002	10µF 16V
2244	3198 035 71040	100nF 10% 16V 0402
2245	3198 035 71040	100nF 10% 16V 0402
2246	3198 035 71040	100nF 10% 16V 0402
2250	2020 552 96618	1nF 10% 50V 0402
2251	2020 552 96656	10µF 20% 25V 1210
2252	3198 035 71040	100nF 10% 16V 0402
2253	3198 035 71040	100nF 10% 16V 0402
2254	3198 035 71040	100nF 10% 16V 0402
2255	3198 035 71040	100nF 10% 16V 0402
2256	4822 124 23002	10µF 16V
2257	3198 035 71040	100nF 10% 16V 0402
2258	2020 552 96637	10µF 10% 6.3V 0805
2259	3198 035 71040	100nF 10% 16V 0402
2260	2020 552 96637	10µF 10% 6.3V 0805
2262	4822 124 12082	10µF 20% 50V
2263	3198 035 26820	6.8nF 10% 16V 0402
2264	3198 017 44740	470nF 10V 0603
2265	3198 017 41050	1µF 10V 0603
2266	3198 035 71040	100nF 10% 16V 0402
2267	2020 552 96718	220nF 10% 6.3V 0402
2269	2020 012 00003	470µF 16V 20% SMD
2270	3198 035 71040	100nF 10% 16V 0402
2271	4822 124 12095	100µF 20% 16V
2272	3198 035 71040	100nF 10% 16V 0402
2273	2020 552 96718	220nF 10% 6.3V 0402
2274	3198 017 31540	150nF 10V 0603
2277	3198 035 71040	100nF 10% 16V 0402
2280	2020 552 00027	4.7µF 2% 6.3V 0603
2281	2020 552 00027	4.7µF 2% 6.3V 0603
2285▲	3198 035 71040	100nF 10% 16V 0402
2286	3198 035 71040	100nF 10% 16V 0402
2289▲	4822 051 30151	150Ω 5% 0.062W
2290▲	2222 240 59872	4.7µF 5% 10V 0805
2291▲	3198 035 71040	100nF 10% 16V 0402
2449	3198 035 71040	100nF 10% 16V 0402
2501	3198 035 71040	100nF 10% 16V 0402
2502	3198 035 71040	100nF 10% 16V 0402
2503	3198 035 71040	100nF 10% 16V 0402
2504	3198 035 71040	100nF 10% 16V 0402
2505	3198 035 71040	100nF 10% 16V 0402
2506	3198 035 03310	330pF 5% 50V 0402
2507	3198 035 04710	470pF 50V 0402
2508	2238 869 15829	82pF 5% 50V 0402
2509	2238 869 15829	82pF 5% 50V 0402
2603	2020 552 96834	1µF 20% 6.3V 0402
2604	3198 035 04710	470pF 50V 0402
2605	2020 552 96834	1µF 20% 6.3V 0402
2608	2020 552 96834	1µF 20% 6.3V 0402
2609	3198 035 04710	470pF 50V 0402
2610	2020 552 96834	1µF 20% 6.3V 0402
2611	4822 124 12095	100µF 20% 16V
2612	3198 017 41050	1µF 10V 0603
2614	3198 035 71040	100nF 10% 16V 0402
2615	2020 012 00003	470µF 16V 20% SMD
2618	2020 012 00003	470µF 16V 20% SMD
2704	4822 124 23002	10µF 16V
2706	4822 124 23002	10µF 16V
2709	4822 124 80151	47µF 16V
2710	2020 552 96656	10µF 20% 25V 1210
2711	2020 552 96656	10µF 20% 25V 1210
2713	2020 012 00028	470µF 20% 16V
2714	3198 035 02210	220pF 5% 50V 0402
2715	2020 552 96455	22nF 10% 16V 0402
2716	2020 012 00028	470µF 20% 16V
2730	2020 552 96656	10µF 20% 25V 1210
2731	2020 012 00003	470µF 16V 20% SMD
2733	3198 035 02210	220pF 5% 50V 0402
2734	2238 787 16641	22nF 10% 16V 0402
2735	3198 035 04710	470pF 50V 0402
2736	2022 031 00308	22µF 20% 35V
2737	2020 012 00003	470µF 16V 20% SMD
2738	4822 124 80151	47µF 16V
2739	4822 124 80151	47µF 16V
2741	4822 126 13879	220nF +80-20% 16V
2750	2020 552 00035	2.2µF 6.3V 10% 0603
2753	2020 012 00003	470µF 16V 20% SMD
2755	3198 035 14720	4.7nF 5% 25V 0402
2756	3198 035 04710	470pF 50V 0402
2757	2020 012 00003	470µF 16V 20% SMD
2758	2020 012 00003	470µF 16V 20% SMD
2761	2020 552 96671	1µF 10% 25V
2762	4822 124 23237	22µF 6.3V
2800	2020 021 91557	100µF 20% 16V
2801	3198 035 71040	100nF 10% 16V 0402
2802	3198 035 71040	100nF 10% 16V 0402
2803	3198 035 71040	100nF 10% 16V 0402
2804	3198 035 71040	100nF 10% 16V 0402
2805	3198 035 71040	100nF 10% 16V 0402
2806	3198 035 71040	100nF 10% 16V 0402
2807	3198 035 71040	100nF 10% 16V 0402
2808	3198 035 71040	100nF 10% 16V 0402
2809	3198 035 71040	100nF 10% 16V 0402
2810	3198 035 71040	100nF 10% 16V 0402
2811	3198 035 71040	100nF 10% 16V 0402
2812	3198 035 71040	100nF 10% 16V 0402
2813	3198 035 71040	100nF 10% 16V 0402
2814	3198 035 71040	100nF 10% 16V 0402
2815	5322 124 41945	22µF 20% 35V
2816	3198 035 71040	100nF 10% 16V 0402
2817	3198 035 71040	100nF 10% 16V 0402
2818	3198 035 71040	100nF 10% 16V 0402
2819	3198 035 71040	100nF 10% 16V 0402
2820	3198 035 71040	100nF 10% 16V 0402
2821	3198 035 71040	100nF 10% 16V 0402
2822	3198 035 71040	100nF 10% 16V 0402
2823	4822 126 14519	22pF 5% 50V 0402
2824	4822 126 14519	22pF 5% 50V 0402
2900	3198 035 71040	100nF 10% 16V 0402
2901	2020 552 96618	1nF 10% 50V 0402
2902	2020 021 00046	470µF 20% 16V
2903	3198 035 71040	100nF 10% 16V 0402
2904	4822 124 80151	47µF 16V
2905	2020 021 91557	100µF 20% 16V
2906	3198 035 71040	100nF 10% 16V 0402
2907	3198 035 71040	100nF 10% 16V 0402
2908	3198 035 71040	100nF 10% 16V 0402
2909	3198 035 71040	100nF 10% 16V 0402
2910	3198 035 71040	100nF 10% 16V 0402
2911	3198 035 71040	100nF 10% 16V 0402
2912	3198 035 71040	100nF 10% 16V 0402
2913	3198 035 71040	100nF 10% 16V 0402
2914	3198 035 71040	100nF 10% 16V 0402
2915	3198 035 71040	100nF 10% 16V 0402
2916	3198 035 71040	100nF 10% 16V 0402
2917	2020 021 91557	100µF 20% 16V
2918	3198 035 71040	100nF 10% 16V 0402
2919	3198 035 71040	100nF 10% 16V 0402
2920	3198 035 71040	100nF 10% 16V 0402
2921	3198 035 71040	100nF 10% 16V 0402
2922	3198 035 71040	100nF 10% 16V 0402
2923	3198 035 71040	100nF 10% 16V 0402
2924	3198 035 71040	100nF 10% 16V 0402
2925	3198 035 71040	100nF 10% 16V 0402
2926	3198 035 71040	100nF 10% 16V 0402
2927	3198 035 71040	100nF 10% 16V 0402
2928	3198 035 71040	100nF 10% 16V 0402
2929	3198 035 71040	100nF 10% 16V 0402
2930	3198 035 71040	100nF 10% 16V 0402
2931	3198 035 71040	100nF 10% 16V 0402
2932	3198 035 71040	100nF 10% 16V 0402
2933	3198 035 71040	100nF 10% 16V 0402
2934	4822 124 80151	47µF 16V
2935	3198 035 71040	100nF 10% 16V 0402
2936	3198 035 71040	100nF 10% 16V 0402
2937	3198 035 71040	100nF 10% 16V 0402
2938	3198 035 71040	100nF 10% 16V 0402
2939	3198 035 71040	100nF 10% 16V 0402
2940	4822 124 80151	47µF 16V
2941	3198 035 71040	100nF 10% 16V 0402
2942	3198 035 71040	100nF 10% 16V 0402
2945	5322 124 41945	22µF 20% 35V
2946	3198 035 71040	100nF 10% 16V 0402
2947	3198 035 71040	100nF 10% 16V 0402
2948	3198 035 71040	100nF 10% 16V 0402
2949	3198 035 71040	100nF 10% 16V 0402
2950	5322 124 41945	22µF 20% 35V
2951	3198 035 71040	100nF 10% 16V 0402
2952	3198 035 71040	100nF 10% 16V 0402
2953	3198 035 71040	100nF 10% 16V 0402
2954	3198 035 71040	100nF 10% 16V 0402
2955	5322 124 41945	22µF 20% 35V
2956	3198 035 71040	100nF 10% 16V 0402
2957	3198 035 71040	100nF 10% 16V 0402
2958	3198 035 71040	100nF 10% 16V 0402
2959	3198 035 71040	100nF 10% 16V 0402
2A00	2238 586 59812	100nF 20% 50V 0603
2A01	2238 869 15101	100pF 5% 50V 0402
2A02	2238 869 15101	100pF 5% 50V 0402
2A12	2020 552 96628	10nF 10% 16V 0402
2A13	3198 035 71040	100nF 10% 16V 0402
2B01	4822 124 80151	47µF 16V
2B02	4822 124 11131	47µF 6.3V
2B03	3198 035 71040	100nF 10% 16V 0402
2B04	3198 035 71040	100nF 10% 16V 0402
2B05	3198 035 71040	100nF 10% 16V 0402
2B06	3198 035 71040	100nF 10% 16V 0402
2B07	3198 035 71040	100nF 10% 16V 0402
2B08	3198 035 71040	100nF 10% 16V 0402
2B09	3198 035 71040	100nF 10% 16V 0402
2B10	3198 035 71040	100nF 10% 16V 0402
2B11	3198 035 71040	100nF 10% 16V 0402
2B12	3198 035 71040	100nF 10% 16V 0402
2B13	3198 035 71040	100nF 10% 16V 0402
2B14	3198 035 71040	100nF 10% 16V 0402
2B15	3198 035 71040	100nF 10% 16V 0402
2B16	3198 035 71040	100nF 10% 16V 0402
2B17	3198 035 71040	100nF 10% 16V 0402
2B18	5322 124 41945	22µF 20% 35V
2C00	3198 035 71040	100nF 10% 16V 0402
2C01	4822 124 23002	10µF 16V
2C02	3198 035 71040	100nF 10% 16V 0402
2C03	3198 035 71040	100nF 10% 16V 0402
2E00	2020 552 00005	4.7µF 10% 6.3V 0603
2E01	2020 552 00005	4.7µF 10% 6.3V 0603
2E02	2020 552 00005	4.7µF 10% 6.3V 0603
2E03	3198 035 71040	100nF 10% 16V 0402
2E04	2020 552 96834	1µF 20% 6.3V 0402
2E05	2020 552 96834	1µF 20% 6.3V 0402
2E06	2020 552 96834	1µF 20% 6.3V 0402
2E07	4822 126 14324	33pF 5% 50V 0402
2E08	2020 552 00005	4.7µF 10% 6.3V 0603
2E09	4822 126 14324	33pF 5% 50V 0402
2E10	2020 552 00005	4.7µF 10% 6.3V 0603
2E11	4822 126 14324	33pF 5% 50V 0402
2E12	2020 552 00005	4.7µF 10% 6.3V 0603
2E13	3198 017 41050	1µF 10V 0603
2E14	4822 126 14324	33pF 5% 50V 0402
2E15	3198 035 71040	100nF 10% 16V 0402
2E16	3198 035 71040	100nF 10% 16V 0402
2E17	3198 035 71040	100nF 10% 16V 0402
2E18	3198 035 71040	100nF 10% 16V 0402
2E19	3198 035 71040	100nF 10% 16V 0402
2E20	4822 124 11131	47µF 6.3V
2E21	2020 552 00005	4.7µF 10% 6.3V 0603
2E22	2020 552 00005	4.7µF 10% 6.3V 0603
2E23	2020 552 00005	4.7µF 10% 6.3V 0603
2E24	3198 035 71040	100nF 10% 16V 0402
2E25	3198 035 71040	100nF 10% 16V 0402
2E26	3198 035 71040	100nF 10% 16V 0402
2E27	3198 035 71040	100nF 10% 16V 0402
2E28	3198 035 71040	100nF 10% 16V 0402
2E29	3198 035 71040	100nF 10% 16V 0402
2E30	3198 035 71040	100nF 10% 16V 0402
2E31	3198 035 71040	100nF 10% 16V 0402
2E32	3198 035 71040	100nF 10% 16V 0402
2E33	2020 552 00005	4.7µF 10% 6.3V 0603
2E34	2020 552 00005	4.7µF 10% 6.3V 0603
2E35	2020 552 00005	4.7µF 10% 6.3V 0603
2E36	3198 035 71040	100nF 10% 16V 0402
2F04	2020 552 94427	100pF 5% 50V
2F07	2238 586 59812	100nF 20% 50V 0603
2F08	4822 126 14241	330pF 0603 50V
2F09	4822 126 14241	330pF 0603 50V
2F10	2020 552 94427	100pF 5% 50V
2F11	4822 126 14241	330pF 0603 50V
2F12	4822 126 14241	330pF 0603 50V
2F13	4822 126 14508	180pF 5% 50V 0603
2F14	4822 126 14508	180pF 5% 50V 0603
2F15	2020 552 00035	2.2µF 6.3V 10% 0603
2F16	2020 552 00035	2.2µF 6.3V 10% 0603
2G05	4822 126 14241	330pF 0603 50V
2G06	4822 126 14508	180pF 5% 50V 0603
2G07	4822 124 23002	10µF 16V
2G08	2020 552 00035	2.2µF 6.3V 10% 0603
2G09	4822 126 14241	330pF 0603 50V
2G10	4822 126 14508	180pF 5% 50V 0603
2G11	4822 124 23002	10µF 16V

2G12	2020 552 00035	2.2µF 6.3V 10% 0603
2G18	4822 126 14241	330pF 0603 50V
2G19	4822 126 14508	180pF 5% 50V 0603
2G20	4822 124 23002	10µF 16V
2G21	2020 552 00035	2.2µF 6.3V 10% 0603
2G22	4822 126 14241	330pF 0603 50V
2G23	4822 126 14508	180pF 5% 50V 0603
2G24	4822 124 23002	10µF 16V
2G25	2020 552 00035	2.2µF 6.3V 10% 0603
2G26	2020 552 00005	4.7µF 10% 6.3V 0603
2G28	2020 552 00005	4.7µF 10% 6.3V 0603
2G47	2238 586 59812	100nF 20% 50V 0603
2G55	2020 552 00005	4.7µF 10% 6.3V 0603
2G56	2020 552 00005	4.7µF 10% 6.3V 0603
2J02	2020 552 96618	1nF 10% 50V 0402
2J03	2020 552 96618	1nF 10% 50V 0402
2J17	2020 552 96618	1nF 10% 50V 0402
2J18	2238 869 15101	100pF 5% 50V 0402
2J19	2238 869 15101	100pF 5% 50V 0402
2J21	2238 869 15101	100pF 5% 50V 0402
2J22	2238 869 15101	100pF 5% 50V 0402
2J23	2238 869 15101	100pF 5% 50V 0402
2J26	2238 869 15101	100pF 5% 50V 0402
2J27	2238 869 15101	100pF 5% 50V 0402
2J28	2238 869 15101	100pF 5% 50V 0402
2J29	2238 869 15101	100pF 5% 50V 0402
2J30	2020 552 96618	1nF 10% 50V 0402
2J31	2238 869 15101	100pF 5% 50V 0402
2J35	2020 552 96618	1nF 10% 50V 0402
2K00	2020 552 96618	1nF 10% 50V 0402
2K01	2020 552 96618	1nF 10% 50V 0402
2K02	2238 869 15109	10pF 5% 50V 0402
2K03	2238 869 15109	10pF 5% 50V 0402
2K04	2238 869 15109	10pF 5% 50V 0402
2K05	2238 869 15109	10pF 5% 50V 0402
2K06	2238 869 15101	100pF 5% 50V 0402
2K07	2238 869 15101	100pF 5% 50V 0402
2K08	2020 552 00035	2.2µF 6.3V 10% 0603
2K10	2238 869 15101	100pF 5% 50V 0402
2K11	2238 869 15101	100pF 5% 50V 0402
2K12	2020 552 00035	2.2µF 6.3V 10% 0603
2K13	2238 869 15101	100pF 5% 50V 0402
2K14	2238 869 15101	100pF 5% 50V 0402
2K16	2238 869 15101	100pF 5% 50V 0402
2K17	2238 869 15101	100pF 5% 50V 0402
2K18	2238 869 15101	100pF 5% 50V 0402
2K19	2020 552 96618	1nF 10% 50V 0402
2K20	2020 552 96618	1nF 10% 50V 0402
2K21	2238 869 15101	100pF 5% 50V 0402
2K22	2238 869 15101	100pF 5% 50V 0402
2K23	2238 869 15101	100pF 5% 50V 0402
2K24	2238 869 15101	100pF 5% 50V 0402
2K25	2238 869 15101	100pF 5% 50V 0402
2K26	2238 869 15101	100pF 5% 50V 0402
2K27	2238 869 15101	100pF 5% 50V 0402
2K28	2238 869 15101	100pF 5% 50V 0402
2L02	2020 552 96637	10µF 10% 6.3V 0805
2L03	3198 035 71040	100nF 10% 16V 0402
2L04	3198 035 71040	100nF 10% 16V 0402
2L05	3198 035 71040	100nF 10% 16V 0402
2L06	3198 035 71040	100nF 10% 16V 0402
2L07	2020 552 96637	10µF 10% 6.3V 0805
2L08	3198 035 71040	100nF 10% 16V 0402
2L09	3198 035 71040	100nF 10% 16V 0402
2L10	3198 035 71040	100nF 10% 16V 0402
2L11	3198 035 71040	100nF 10% 16V 0402
2L13	3198 035 74730	47nF 5% 16V 0402
2L17	3198 035 74730	47nF 5% 16V 0402
2L20	3198 035 71040	100nF 10% 16V 0402
2L21	3198 035 71040	100nF 10% 16V 0402
2L22	2020 552 96637	10µF 10% 6.3V 0805
2L23	3198 035 71040	100nF 10% 16V 0402
2L24	3198 035 71040	100nF 10% 16V 0402
2L26	2020 552 96718	220nF 10% 6.3V 0402
2L27	4822 124 23002	10µF 16V
2L28	4822 124 23002	10µF 16V
2L29	4822 124 23002	10µF 16V
2L30	4822 124 23002	10µF 16V
2L31	4822 124 12095	100µF 20% 16V
2L32	4822 124 12095	100µF 20% 16V
2L33	3198 035 71040	100nF 10% 16V 0402
2L34	3198 035 71040	100nF 10% 16V 0402
2L37	4822 126 14524	68pF 5% 50V 0402
2L39	2238 869 15829	82pF 5% 50V 0402
2M00	3198 035 71040	100nF 10% 16V 0402
2M01	3198 035 71040	100nF 10% 16V 0402
2M02	3198 035 71040	100nF 10% 16V 0402
2M03	3198 035 71040	100nF 10% 16V 0402
2M04	3198 035 71040	100nF 10% 16V 0402
2M05	3198 035 71040	100nF 10% 16V 0402
2M06	3198 035 71040	100nF 10% 16V 0402
2M07	3198 035 71040	100nF 10% 16V 0402
2M08	3198 035 71040	100nF 10% 16V 0402
2M09	3198 035 71040	100nF 10% 16V 0402
2M10	3198 035 71040	100nF 10% 16V 0402
2M11	3198 035 71040	100nF 10% 16V 0402
2M12	3198 035 71040	100nF 10% 16V 0402
2M13	3198 035 71040	100nF 10% 16V 0402
2M14	3198 035 71040	100nF 10% 16V 0402
2M15	3198 035 71040	100nF 10% 16V 0402
2M16	3198 035 71040	100nF 10% 16V 0402
2M17	3198 035 71040	100nF 10% 16V 0402
2M18	3198 035 71040	100nF 10% 16V 0402
2M19	3198 035 71040	100nF 10% 16V 0402
2M20	3198 035 71040	100nF 10% 16V 0402
2M21	2020 552 00035	2.2µF 6.3V 10% 0603
2M22	3198 035 71040	100nF 10% 16V 0402
2M23	4822 124 12095	100µF 20% 16V
2M24	3198 035 71040	100nF 10% 16V 0402
2M25	3198 035 71040	100nF 10% 16V 0402
2M26	3198 035 71040	100nF 10% 16V 0402
2M27	3198 035 71040	100nF 10% 16V 0402
2M28	3198 035 71040	100nF 10% 16V 0402
2M29	3198 035 71040	100nF 10% 16V 0402
2M30	3198 035 71040	100nF 10% 16V 0402
2M31	4822 124 12095	100µF 20% 16V
2M32	4822 124 12095	100µF 20% 16V
2M56	4822 124 12095	100µF 20% 16V
2M65	3198 035 71040	100nF 10% 16V 0402
2M66	4822 124 12095	100µF 20% 16V
2M67	3198 035 71040	100nF 10% 16V 0402
2M68	4822 124 12095	100µF 20% 16V
2N01	3198 035 71040	100nF 10% 16V 0402
2N02	3198 035 71040	100nF 10% 16V 0402
2N03	2020 552 96834	1µF 20% 6.3V 0402
2N04	2020 552 96618	1nF 10% 50V 0402
2N05	3198 035 71040	100nF 10% 16V 0402
2N06	3198 035 71040	100nF 10% 16V 0402
2N07	3198 035 71040	100nF 10% 16V 0402
2N08	3198 035 71040	100nF 10% 16V 0402
2N09	3198 035 71040	100nF 10% 16V 0402
2N10	3198 035 71040	100nF 10% 16V 0402
2N11	2238 869 15101	100pF 5% 50V 0402
2N12	2238 869 15101	100pF 5% 50V 0402
2N13	2238 869 15101	100pF 5% 50V 0402
2N14	2238 869 15101	100pF 5% 50V 0402
2N15	2238 869 15101	100pF 5% 50V 0402
2N16	2238 869 15101	100pF 5% 50V 0402
2P01	2020 552 00035	2.2µF 6.3V 10% 0603
2P02	3198 035 71040	100nF 10% 16V 0402
2P03	3198 035 71040	100nF 10% 16V 0402
2P04	3198 035 71040	100nF 10% 16V 0402
2P05	3198 035 71040	100nF 10% 16V 0402
2P06	3198 035 71040	100nF 10% 16V 0402
2P07	3198 035 71040	100nF 10% 16V 0402
2P08	3198 035 71040	100nF 10% 16V 0402
2P09	3198 035 71040	100nF 10% 16V 0402
2P10	3198 035 71040	100nF 10% 16V 0402
2P11	3198 035 71040	100nF 10% 16V 0402
2P12	3198 035 71040	100nF 10% 16V 0402
2P13	3198 035 71040	100nF 10% 16V 0402
2P14	3198 035 71040	100nF 10% 16V 0402
2P15	4822 124 12095	100µF 20% 16V
2P16	3198 035 71040	100nF 10% 16V 0402
2P17	2020 552 00035	2.2µF 6.3V 10% 0603
2P18	2020 552 00035	2.2µF 6.3V 10% 0603
2P19	3198 035 71040	100nF 10% 16V 0402
2P20	3198 035 71040	100nF 10% 16V 0402
2P21	3198 035 71040	100nF 10% 16V 0402
2P22	2020 552 00035	2.2µF 6.3V 10% 0603
2P23	3198 035 71040	100nF 10% 16V 0402
2P24	3198 035 71040	100nF 10% 16V 0402
2P25	3198 035 71040	100nF 10% 16V 0402
2P26	3198 035 71040	100nF 10% 16V 0402
2P27	3198 035 71040	100nF 10% 16V 0402
2P28	3198 035 71040	100nF 10% 16V 0402
2P29	3198 035 71040	100nF 10% 16V 0402
2P30	3198 035 71040	100nF 10% 16V 0402
2P31	3198 035 71040	100nF 10% 16V 0402
2P32	3198 035 71040	100nF 10% 16V 0402
2P33	3198 035 71040	100nF 10% 16V 0402
2P34	3198 035 71040	100nF 10% 16V 0402
2P35	3198 035 71040	100nF 10% 16V 0402
2P36	2238 869 15109	10pF 5% 50V 0402
2P37	2238 869 15109	10pF 5% 50V 0402
2P38	2238 869 15109	10pF 5% 50V 0402
2P39	2238 869 15109	10pF 5% 50V 0402
2P40	2238 869 15109	10pF 5% 50V 0402
2P41	2238 869 15109	10pF 5% 50V 0402
2P42	2238 869 15109	10pF 5% 50V 0402
2P43	2238 869 15109	10pF 5% 50V 0402
2P44	2238 869 15109	10pF 5% 50V 0402
2P45	2238 869 15109	10pF 5% 50V 0402

-WW-

3103	4822 117 13606	10kΩ 5% 0.01W 0402
3104	4822 051 30103	10kΩ 5% 0.062W
3105	4822 117 13548	1kΩ 5% 0402
3107	4822 051 30682	6.8Ω 5% 0.062W
3108	4822 051 30222	2.2kΩ 5% 0.062W
3109	4822 051 30222	2.2kΩ 5% 0.062W
3111	4822 051 30223	22kΩ 5% 0.062W
3112	4822 051 30183	18kΩ 5% 0.062W
3120	4822 117 13606	10kΩ 5% 0.01W 0402
3121	4822 117 13606	10kΩ 5% 0.01W 0402
3122	4822 117 13545	100Ω 1% 0402
3123	4822 117 13545	100Ω 1% 0402
3124	4822 117 13545	100Ω 1% 0402
3125	4822 117 13545	100Ω 1% 0402
3207	3198 031 06810	680Ω 5% 0.01W 0402
3208	4822 117 13545	100Ω 1% 0402
3209	4822 117 13545	100Ω 1% 0402
3210	4822 117 13545	100Ω 1% 0402
3211	4822 117 13545	100Ω 1% 0402
3212	4822 117 13545	100Ω 1% 0402
3213	4822 117 13545	100Ω 1% 0402
3214	3198 031 06810	680Ω 5% 0.01W 0402
3215	3198 031 02710	270Ω 5% 0.1W 0402
3216	4822 117 13597	330Ω 5% 0402 0.01W
3217	4822 117 13548	1kΩ 5% 0402
3218	4822 117 11297	100kΩ 5% 0.1W
3219	4822 117 13545	100Ω 1% 0402
3220	3198 031 04730	47Ω 5% 0402
3222	4822 117 13545	100Ω 1% 0402
3223	3198 031 01090	10Ω 5% 0.01W 0402
3224	3198 031 04720	4.7kΩ 5% 0402
3225	3198 031 04720	4.7kΩ 5% 0402
3226	4822 117 13545	100Ω 1% 0402
3227	4822 117 13545	100Ω 1% 0402
3229	3198 031 04720	4.7kΩ 5% 0402
3230	4822 117 13606	10kΩ 5% 0.01W 0402
3231	4822 117 13602	2.2kΩ 5% 0.01W 0402
3232	3198 031 03320	3.3kΩ 5% 0402
3233	3198 031 03320	3.3kΩ 5% 0402
3234	3198 031 04720	4.7kΩ 5% 0402
3235	3198 031 04720	4.7kΩ 5% 0402
3236	3198 031 04720	4.7kΩ 5% 0402
3238	4822 117 13545	100Ω 1% 0402
3239	4822 117 13545	100Ω 1% 0402
3240	2322 704 61002	1kΩ 1%
3241	4822 117 13545	100Ω 1% 0402
3242	4822 117 13606	10kΩ 5% 0.01W 0402
3243	3198 031 04720	4.7kΩ 5% 0402
3245	3198 031 02240	220kΩ 5% 0.1W 0402
3246	3198 031 04720	4.7kΩ 5% 0402
3247	4822 117 13545	100Ω 1% 0402
3248	4822 117 13545	100Ω 1% 0402
3249	3198 031 04720	4.7kΩ 5% 0402
3250	4822 117 13545	100Ω 1% 0402
3251	4822 117 13545	100Ω 1% 0402
3252	4822 117 13545	100Ω 1% 0402
3253	4822 117 13545	100Ω 1% 0402
3255	4822 117 13605	Jumper 0402
3256	4822 117 13605	Jumper 0402
3257	4822 117 13605	Jumper 0402
3258	4822 117 13548	1kΩ 5% 0402
3259	4822 117 13548	1kΩ 5% 0402
3260	4822 117 13548	1kΩ 5% 0402
3262	4822 117 13601	22kΩ 5% 0402
3263	2322 702 70398	3.9Ω 5% 0603
3264	4822 117 13601	22kΩ 5% 0402
3265	2322 702 70398	3.9Ω 5% 0603
3266	3198 031 05620	5.6kΩ 5% 0.01W 0402
3267	3198 031 05620	5.6kΩ 5% 0.01W 0402
3268	4822 117 13545	100Ω 1% 0402
3272	3198 031 04720	4.7kΩ 5% 0402
3273	4822 117 13548	1kΩ 5% 0402
3274	3198 031 03910	390Ω 1% 0402
3275	4822 117 13545	100Ω 1% 0402
3276	3198 031 07590	75Ω 5% 0402
3277	3198 031 01520	1.2kΩ 5% 0.01W 0402
3280▲	4822 117 11151	1Ω 5%
3281	3198 031 03930	39kΩ 5% 0402
3285	4822 117 13605	Jumper 0402
3286	4822 117 13545	100Ω 1% 0402
3292▲	3198 031 01230	12kΩ 5% 0402
3294▲	3198 031 04730	47Ω 5% 0402
3295▲	4822 117 11297	100kΩ 5% 0.1W
3431	4822 117 13548	1kΩ 5% 0402
3451	3198 031 04720	4.7kΩ 5% 0402
3453	4822 117 13545	100Ω 1% 0402
3454	4822 117 13545	100Ω 1% 0402
3455	4822 117 13545	100Ω 1% 0402
3456	4822 117 13545	100Ω 1% 0402
3458	4822 117 13545	100Ω 1% 0402
3459	4822 117 13545	100Ω 1% 0402
3461	4822 117 13545	100Ω 1% 0402
3462	4822 117 13545	100Ω 1% 0402
3501	4822 117 13543	470Ω 5% 0402
3502	3198 031 04730	47Ω 5% 0402

3604	4822 117 13601	22kΩ 5% 0402
3605	4822 117 13601	22kΩ 5% 0402
3609	4822 117 13601	22kΩ 5% 0402
3610	4822 117 11297	100kΩ 5% 0.1W
3611	4822 117 11297	100kΩ 5% 0.1W
3612	4822 117 13601	22kΩ 5% 0402
3616	4822 117 13548	1kΩ 5% 0402
3617	4822 117 13548	1kΩ 5% 0402
3619	4822 117 13606	10kΩ 5% 0.01W 0402
3620	4822 117 13606	10kΩ 5% 0.01W 0402
3628	4822 117 13606	10kΩ 5% 0.01W 0402
3629	4822 117 13601	22kΩ 5% 0402
3630	4822 117 13602	2.2kΩ 5% 0.01W 0402
3631	4822 117 13602	2.2kΩ 5% 0.01W 0402
3632	2322 705 70569	56Ω 5% 0402
3633	2322 705 70569	56Ω 5% 0402
3708	4822 117 13606	10kΩ 5% 0.01W 0402
3709	3198 031 06820	6.8kΩ 5% 0.01W 0402
3712	5322 117 13031	5.6kΩ 1% 0.063W 0603
3713	2322 704 63302	3.3kΩ 1% 0603
3716	3198 031 04720	4.7kΩ 5% 0402
3732	2322 704 61002	1kΩ 1%
3733	2322 704 63302	3.3kΩ 1% 0603
3734	4822 117 13602	2.2kΩ 5% 0.01W 0402
3735	4822 117 13548	1kΩ 5% 0402
3736	3198 031 04720	4.7kΩ 5% 0402
3740	3198 031 01520	1.2kΩ 5% 0.01W 0402
3741	3198 031 01520	1.2kΩ 5% 0.01W 0402
3742	3198 031 01530	15kΩ 5% 0.01W 0402
3743	4822 117 13601	22kΩ 5% 0402
3750	4822 117 13601	22kΩ 5% 0402
3751	3198 021 31080	1Ω 5% 0603
3752	3198 021 31080	1Ω 5% 0603
3753	2322 704 61002	1kΩ 1%
3754	2322 704 63302	3.3kΩ 1% 0603
3759	3198 031 01230	12kΩ 5% 0402
3761	4822 117 13545	100Ω 1% 0402
3800	4822 117 13606	10kΩ 5% 0.01W 0402
3801	2350 035 10229	4 x 22Ω 5% 1206
3802	2350 035 10229	4 x 22Ω 5% 1206
3803	2350 035 10229	4 x 22Ω 5% 1206
3804	2350 035 10229	4 x 22Ω 5% 1206
3805	2350 035 10229	4 x 22Ω 5% 1206
3806	2350 035 10229	4 x 22Ω 5% 1206
3807	2350 035 10229	4 x 22Ω 5% 1206
3808	2350 035 10229	4 x 22Ω 5% 1206
3809	2350 035 10229	4 x 22Ω 5% 1206
3810	2350 035 10229	4 x 22Ω 5% 1206
3811	2350 035 10229	4 x 22Ω 5% 1206
3812	2350 035 10229	4 x 22Ω 5% 1206
3813	2350 035 10229	4 x 22Ω 5% 1206
3814	3198 031 02290	22Ω 5% 0.1W 0402
3815	3198 031 02290	22Ω 5% 0.1W 0402
3816	3198 031 02290	22Ω 5% 0.1W 0402
3817	4822 117 13606	10kΩ 5% 0.01W 0402
3818	4822 117 13606	10kΩ 5% 0.01W 0402
3820	4822 117 13606	10kΩ 5% 0.01W 0402
3822	4822 117 13545	100Ω 1% 0402
3824	3198 031 03320	3.3kΩ 5% 0402
3825	3198 031 11030	4 x 10kΩ 5% 1206
3826	3198 031 11030	4 x 10kΩ 5% 1206
3827	4822 117 13606	10kΩ 5% 0.01W 0402
3828	4822 117 13606	10kΩ 5% 0.01W 0402
3829	4822 117 13606	10kΩ 5% 0.01W 0402
3831	4822 117 13545	100Ω 1% 0402
3832	4822 117 13545	100Ω 1% 0402
3833	3198 031 01090	10Ω 5% 0.01W 0402
3834	4822 117 13606	10kΩ 5% 0.01W 0402
3835	4822 117 13606	10kΩ 5% 0.01W 0402
3836	4822 117 13606	10kΩ 5% 0.01W 0402
3837	4822 117 13606	10kΩ 5% 0.01W 0402
3838	4822 117 13606	10kΩ 5% 0.01W 0402
3839	4822 117 13545	100Ω 1% 0402
3840	3198 031 02290	22Ω 5% 0.1W 0402
3841	4822 117 13606	10kΩ 5% 0.01W 0402
3900	3198 031 03320	3.3kΩ 5% 0402
3901	4822 117 13606	10kΩ 5% 0.01W 0402
3902	4822 117 13606	10kΩ 5% 0.01W 0402
3903	4822 117 13545	100Ω 1% 0402
3904	4822 117 13545	100Ω 1% 0402
3A00	3198 031 06890	68Ω 5% 0402
3A01	3198 031 06890	68Ω 5% 0402
3A07	4822 117 13606	10kΩ 5% 0.01W 0402
3A08	4822 117 13606	10kΩ 5% 0.01W 0402
3A10	4822 117 13606	10kΩ 5% 0.01W 0402
3A11	4822 117 13606	10kΩ 5% 0.01W 0402
3A13	4822 117 13606	10kΩ 5% 0.01W 0402
3A14	3198 031 04720	4.7kΩ 5% 0402
3B01	4822 117 12706	10kΩ 1% 0.063W 0603
3B02	4822 117 12706	10kΩ 1% 0.063W 0603
3B03	2322 704 61501	150Ω 1% 0603
3C00	4822 117 13606	10kΩ 5% 0.01W 0402
3C01	4822 117 13606	10kΩ 5% 0.01W 0402
3C02	4822 117 13548	1kΩ 5% 0402
3C04	3198 031 11030	4 x 10kΩ 5% 1206
3C05	4822 117 13606	10kΩ 5% 0.01W 0402
3C06	3198 031 11030	4 x 10kΩ 5% 1206
3C07	3198 031 11030	4 x 10kΩ 5% 1206
3C08	3198 031 11030	4 x 10kΩ 5% 1206
3C09	3198 031 11030	4 x 10kΩ 5% 1206
3C10	3198 031 11030	4 x 10kΩ 5% 1206
3C16	3198 031 11030	4 x 10kΩ 5% 1206
3C17	4822 117 13606	10kΩ 5% 0.01W 0402
3C18	4822 117 13606	10kΩ 5% 0.01W 0402
3E00	2322 705 70569	56Ω 5% 0402
3E01	2322 705 70569	56Ω 5% 0402
3E02	2322 705 70569	56Ω 5% 0402
3E06	3198 031 04730	47Ω 5% 0402
3E07	3198 031 04730	47Ω 5% 0402
3E08	3198 031 04730	47Ω 5% 0402
3E09	3198 031 04730	47Ω 5% 0402
3E10	3198 031 04730	47Ω 5% 0402
3E11	3198 031 04730	47Ω 5% 0402
3E12	4822 117 13606	10kΩ 5% 0.01W 0402
3E13	4822 117 13597	330Ω 5% 0402 0.01W
3E14	4822 117 13597	330Ω 5% 0402 0.01W
3E15	4822 117 13597	330Ω 5% 0402 0.01W
3E16	4822 117 13597	330Ω 5% 0402 0.01W
3E17	4822 117 13597	330Ω 5% 0402 0.01W
3E18	4822 117 13597	330Ω 5% 0402 0.01W
3E19	2322 705 70569	56Ω 5% 0402
3E20	2322 705 70569	56Ω 5% 0402
3E21	2322 705 70569	56Ω 5% 0402
3E22	4822 117 13632	100kΩ 1% 0603 0.62W
3E23	3198 031 08210	820Ω 5% 0.5W
3E24	4822 117 13543	470Ω 5% 0402
3E25	2322 705 70399	39Ω 5% 0402
3E26	3198 031 02290	22Ω 5% 0.1W 0402
3E27	2322 705 70399	39Ω 5% 0402
3E28	3198 031 02290	22Ω 5% 0.1W 0402
3E29	2322 705 70399	39Ω 5% 0402
3E30	3198 031 02290	22Ω 5% 0.1W 0402
3E31	4822 117 13545	100Ω 1% 0402
3E32	4822 117 13545	100Ω 1% 0402
3E33	4822 117 13545	100Ω 1% 0402
3E34	4822 117 13545	100Ω 1% 0402
3E35	4822 117 13545	100Ω 1% 0402
3E36	4822 117 13545	100Ω 1% 0402
3E37	3198 031 02290	22Ω 5% 0.1W 0402
3E38	4822 117 13545	100Ω 1% 0402
3E39	4822 117 13545	100Ω 1% 0402
3E41	4822 117 13545	100Ω 1% 0402
3E42	4822 117 13545	100Ω 1% 0402
3E43	4822 117 13545	100Ω 1% 0402
3E44	4822 117 13545	100Ω 1% 0402
3E45	4822 117 13545	100Ω 1% 0402
3E49	3198 031 02290	22Ω 5% 0.1W 0402
3E50	3198 031 04730	47Ω 5% 0402
3E51	3198 031 04730	47Ω 5% 0402
3E52	3198 031 04730	47Ω 5% 0402
3E53	3198 031 04730	47Ω 5% 0402
3E54	3198 031 04730	47Ω 5% 0402
3E55	3198 031 04730	47Ω 5% 0402
3F00	4822 051 30759	75Ω 5% 0.062W
3F09	4822 051 30759	75Ω 5% 0.062W
3F10	3198 021 31080	1Ω 5% 0603
3F11	4822 051 30759	75Ω 5% 0.062W
3F16	4822 051 30103	10kΩ 5% 0.062W
3F17	4822 051 30103	10kΩ 5% 0.062W
3F18	4822 051 30103	10kΩ 5% 0.062W
3F19	3198 021 31080	1Ω 5% 0603
3F20	4822 051 30101	100Ω 5% 0.062W
3F21	4822 051 30102	1kΩ 5% 0.062W
3F22	4822 051 30103	10kΩ 5% 0.062W
3F23	4822 051 30102	1kΩ 5% 0.062W
3F24	4822 051 30103	10kΩ 5% 0.062W
3F25	4822 051 30103	10kΩ 5% 0.062W
3F26	4822 051 30153	15kΩ 5% 0.062W
3F27	4822 051 30153	15kΩ 5% 0.062W
3F28	4822 051 30101	100Ω 5% 0.062W
3F29	4822 051 30101	100Ω 5% 0.062W
3G00	4822 051 30151	150Ω 5% 0.062W
3G01	4822 051 30103	10kΩ 5% 0.062W
3G02	4822 117 12891	220kΩ 1%
3G03	4822 051 30153	15kΩ 5% 0.062W
3G04	4822 051 30151	150Ω 5% 0.062W
3G05	4822 051 30103	10kΩ 5% 0.062W
3G06	4822 117 12891	220kΩ 1%
3G07	4822 051 30153	15kΩ 5% 0.062W
3G08	4822 051 30151	150Ω 5% 0.062W
3G12	2122 118 06408	91Ω 5% 0603
3G13	2122 118 06408	91Ω 5% 0603
3G14	2122 118 06408	91Ω 5% 0603
3G15	4822 051 30101	100Ω 5% 0.062W
3G16	4822 051 30101	100Ω 5% 0.062W
3G17	4822 051 30101	100Ω 5% 0.062W
3G26	4822 051 30273	27kΩ 5% 0.062W
3G27	4822 051 30682	6.8Ω 5% 0.062W
3G28	4822 051 30759	75Ω 5% 0.062W
3G29	4822 051 30331	330Ω 5% 0.062W
3G30	4822 051 30689	68Ω 5% 0.063W 0603
3G31	4822 051 30759	75Ω 5% 0.062W
3G32	4822 051 30102	1kΩ 5% 0.062W
3G33	4822 051 30101	100Ω 5% 0.062W
3G34	4822 051 30102	1kΩ 5% 0.062W
3G37	4822 051 30151	150Ω 5% 0.062W
3G38	4822 051 30103	10kΩ 5% 0.062W
3G39	4822 117 12891	220kΩ 1%
3G40	4822 051 30153	15kΩ 5% 0.062W
3G41	4822 051 30151	150Ω 5% 0.062W
3G42	4822 051 30103	10kΩ 5% 0.062W
3G43	4822 117 12891	220kΩ 1%
3G44	4822 051 30153	15kΩ 5% 0.062W
3G45	4822 051 30759	75Ω 5% 0.062W
3G46	4822 051 30101	100Ω 5% 0.062W
3G47	4822 117 12925	47kΩ 1% 0.063W 0603
3G48	4822 117 12925	47kΩ 1% 0.063W 0603
3G51	4822 051 30273	27kΩ 5% 0.062W
3G52	4822 051 30682	6.8Ω 5% 0.062W
3G53	4822 051 30689	68Ω 5% 0.063W 0603
3G54	4822 051 30102	1kΩ 5% 0.062W
3G57	4822 051 30759	75Ω 5% 0.062W
3G58	4822 051 30101	100Ω 5% 0.062W
3G59	4822 117 12925	47kΩ 1% 0.063W 0603
3G60	4822 117 12925	47kΩ 1% 0.063W 0603
3G96	4822 117 12925	47kΩ 1% 0.063W 0603
3G99	4822 117 12925	47kΩ 1% 0.063W 0603
3J05	3198 031 06890	68Ω 5% 0402
3K00	4822 117 13545	100Ω 1% 0402
3K01	4822 117 13545	100Ω 1% 0402
3K02	4822 117 13606	10kΩ 5% 0.01W 0402
3K03	3198 031 01530	15kΩ 5% 0.01W 0402
3K05	4822 117 13606	10kΩ 5% 0.01W 0402
3K06	3198 031 01530	15kΩ 5% 0.01W 0402
3K07	2322 705 70399	39Ω 5% 0402
3K09	2322 705 70399	39Ω 5% 0402
3K11	3198 031 06890	68Ω 5% 0402
3K12	3198 031 06890	68Ω 5% 0402
3K13	3198 031 06890	68Ω 5% 0402
3L00	4822 117 13548	1kΩ 5% 0402
3L04	4822 117 13605	Jumper 0402
3L05	3198 031 01510	150Ω 5% 0.01W 0402
3L06	4822 117 13605	Jumper 0402
3L10	4822 117 13597	330Ω 5% 0402 0.01W
3L11	3198 031 01510	150Ω 5% 0.01W 0402
3L12	4822 117 13548	1kΩ 5% 0402
3L16	4822 117 13605	Jumper 0402
3L17	3198 031 01510	150Ω 5% 0.01W 0402
3L19	3198 031 01510	150Ω 5% 0.01W 0402
3L20	3198 031 01510	150Ω 5% 0.01W 0402
3L21	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L22	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L24	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L25	2350 035 10229	4 x 22Ω 5% 1206
3L26	2350 035 10229	4 x 22Ω 5% 1206
3L27	2350 035 10229	4 x 22Ω 5% 1206
3L28	2350 035 10229	4 x 22Ω 5% 1206
3L30	3198 031 02290	22Ω 5% 0.1W 0402
3L31	3198 031 02290	22Ω 5% 0.1W 0402
3L32	4822 117 13602	2.2kΩ 5% 0.01W 0402
3L33	4822 117 13596	220Ω 5% 0.01W 0402
3L34	4822 117 13605	Jumper 0402
3L35	4822 117 13596	220Ω 5% 0.01W 0402
3L36	3198 031 03320	3.3kΩ 5% 0402
3L37	3198 031 03320	3.3kΩ 5% 0402
3M01	2350 035 10689	4 x 68Ω 5%
3M02	2350 035 10689	4 x 68Ω 5%
3M03	2350 035 10689	4 x 68Ω 5%
3M04	2350 035 10689	4 x 68Ω 5%
3M06	2350 035 10229	4 x 22Ω 5% 1206
3M07	2350 035 10229	4 x 22Ω 5% 1206
3M08	2350 035 10229	4 x 22Ω 5% 1206
3M09	2350 035 10229	4 x 22Ω 5% 1206
3M11	3198 031 04720	4.7kΩ 5% 0402
3M13	3198 031 04720	4.7kΩ 5% 0402
3M14	4822 117 13545	100Ω 1% 0402
3M15	4822 117 13545	100Ω 1% 0402
3M16	3198 031 04720	4.7kΩ 5% 0402
3M26	4822 117 13605	Jumper 0402
3M27	4822 117 13605	Jumper 0402
3M50	4822 117 13606	10kΩ 1% 0.01W 0402
3M51	4822 117 13606	10kΩ 1% 0.01W 0402
3M52	4822 117 13606	10kΩ 1% 0.01W 0402
3M53	4822 117 13546	47Ω 5% 0402
3M54	4822 117 13546	47Ω 5% 0402
3M55	4822 117 13546	47Ω 5% 0402
3M56	4822 117 13606	10kΩ 1% 0.01W 0402
3M57	4822 117 13546	47Ω 5% 0402
3M58	4822 117 13606	10kΩ 1% 0.01W 0402
3M59	4822 117 13546	47Ω 5% 0402
3M78	4822 117 13548	1kΩ 5% 0402
3M79	3198 031 03320	3.3kΩ 5% 0402

3M87	4822 117 13605	Jumper 0402
3M89	3198 031 02290	22Ω 5% 0.1W 0402
3M90	3198 031 02290	22Ω 5% 0.1W 0402
3N01	4822 117 13606	10kΩ 5% 0.01W 0402
3N02	4822 117 13606	10kΩ 5% 0.01W 0402
3N03	4822 117 13606	10kΩ 5% 0.01W 0402
3N04	4822 117 13606	10kΩ 5% 0.01W 0402
3N05	4822 117 13606	10kΩ 5% 0.01W 0402
3N06	4822 117 13606	10kΩ 5% 0.01W 0402
3N07	4822 051 30333	33kΩ 5% 0.062W
3N08	4822 117 13606	10kΩ 5% 0.01W 0402
3N09	4822 117 13548	1kΩ 5% 0402
3N10	4822 117 13603	33kΩ 5% 0402
3N11	4822 117 13546	47Ω 5% 0402
3N12	4822 117 13606	10kΩ 5% 0.01W 0402
3N13	4822 117 13606	10kΩ 5% 0.01W 0402
3N14	4822 117 13606	10kΩ 5% 0.01W 0402
3N15	4822 117 13546	47Ω 5% 0402
3N16	4822 117 13546	47Ω 5% 0402
3N17	4822 117 13546	47Ω 5% 0402
3N18	4822 117 13546	47Ω 5% 0402
3N19	4822 117 13606	10kΩ 5% 0.01W 0402
3N20	4822 117 13546	47Ω 5% 0402
3N21	4822 117 13545	100Ω 1% 0402
3N22	4822 117 13545	100Ω 1% 0402
3N23	4822 117 13545	100Ω 1% 0402
3N24	4822 117 13545	100Ω 1% 0402
3N25	4822 117 13545	100Ω 1% 0402
3N26	3198 031 04720	4.7kΩ 5% 0402
3N27	4822 117 13546	47Ω 5% 0402
3N28	4822 051 30181	180Ω 5% 0.062W
3N29	4822 117 13545	100Ω 1% 0402
3N30	4822 117 13545	100Ω 1% 0402
3N31	4822 117 13545	100Ω 1% 0402
3N32	4822 117 13545	100Ω 1% 0402
3N33	4822 117 13545	100Ω 1% 0402
3N34	4822 117 13545	100Ω 1% 0402
3N35	4822 117 13545	100Ω 1% 0402
3N46	4822 117 13545	100Ω 1% 0402
3N47	4822 117 13545	100Ω 1% 0402
3P01	3198 031 04720	4.7kΩ 5% 0402
3P03	4822 117 13546	47Ω 5% 0402
3P04	4822 117 13545	100Ω 1% 0402
3P04	4822 117 13605	Jumper 0402
3P05	4822 117 13545	100Ω 1% 0402
3P05	4822 117 13605	Jumper 0402
3S00	4822 117 12925	47kΩ 1% 0.063W 0603
3S03	4822 117 12925	47kΩ 1% 0.063W 0603
4211	4822 117 13605	Jumper 0402
4212	4822 117 13605	Jumper 0402
4440	4822 117 13605	Jumper 0402
4441	4822 117 13605	Jumper 0402
4501	4822 117 13605	Jumper 0402
4502	4822 117 13605	Jumper 0402
4504	4822 117 13605	Jumper 0402
4511	4822 117 13605	Jumper 0402
4801	4822 117 13605	Jumper 0402
4A04	4822 117 13605	Jumper 0402
4J01	4822 117 13605	Jumper 0402
4K04	4822 117 13605	Jumper 0402
4K05	4822 117 13605	Jumper 0402
4L02	4822 117 13605	Jumper 0402
4M00	4822 117 13605	Jumper 0402
4M01	4822 117 13605	Jumper 0402
4M02	4822 117 13605	Jumper 0402
4M03	4822 117 13605	Jumper 0402
4M05	4822 117 13605	Jumper 0402
4M08	4822 117 13605	Jumper 0402
4M09	4822 117 13605	Jumper 0402
4M10	4822 117 13605	Jumper 0402
4M16	4822 117 13605	Jumper 0402
4M17	4822 117 13605	Jumper 0402
4N01	4822 117 13605	Jumper 0402
4N02	4822 117 13605	Jumper 0402
4N03	4822 117 13605	Jumper 0402
4N04	4822 117 13605	Jumper 0402
4N05	4822 117 13605	Jumper 0402
4N06	4822 117 13605	Jumper 0402
4N07	4822 117 13605	Jumper 0402
4N08	4822 117 13605	Jumper 0402
4N09	4822 117 13605	Jumper 0402
4N10	4822 117 13605	Jumper 0402
4N11	4822 117 13605	Jumper 0402
4N12	4822 117 13605	Jumper 0402
4N13	4822 117 13605	Jumper 0402
4N14	4822 117 13605	Jumper 0402
4N15	4822 117 13605	Jumper 0402
4N16	4822 117 13605	Jumper 0402
4N17	4822 117 13605	Jumper 0402
4N18	4822 117 13605	Jumper 0402
4N19	4822 117 13605	Jumper 0402
4N20	4822 117 13605	Jumper 0402
4N21	4822 117 13605	Jumper 0402
4N22	4822 117 13605	Jumper 0402
4P07	4822 117 13605	Jumper 0402

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5101	3198 018 33970	0.39µF 10% 0805
5103	4822 157 71334	0.68µH 5% 1008
5107	4822 051 30101	100Ω 5% 0.062W
5108	4822 051 30101	100Ω 5% 0.062W
5201	4822 157 11716	Bead 30Ω at 100MHz
5202	4822 157 11716	Bead 30Ω at 100MHz
5203	4822 157 11716	Bead 30Ω at 100MHz
5204	2422 549 42896	Bead 120Ω 100MHz
5205	4822 157 11716	Bead 30Ω at 100MHz
5206	4822 157 11716	Bead 30Ω at 100MHz
5207	2422 549 42896	Bead 120Ω 100MHz
5208	4822 157 11716	Bead 30Ω at 100MHz
5209	4822 157 11716	Bead 30Ω at 100MHz
5210	4822 157 11716	Bead 30Ω at 100MHz
5211	4822 157 11716	Bead 30Ω at 100MHz
5212	4822 157 11716	Bead 30Ω at 100MHz
5213	4822 157 11716	Bead 30Ω at 100MHz
5214	2422 536 00667	1000µF 20% 7032
5216	4822 157 11716	Bead 30Ω at 100MHz
5218▲	2422 549 45333	Bead 120Ω 100MHz
5501	3198 018 31080	1µF 10% 0805
5704	4822 157 63635	10µF 20% 1206
5709	2422 535 94134	10µH 20% 0805
5712	2422 536 00339	33µ 20%
5713	2422 535 94995	10µF 20% 10145
5730	2422 535 94134	10µH 20% 0805
5733	2422 536 00689	220µF 20%
5735	2422 536 00667	1000µF 20% 7032
5737	2422 535 94134	10µH 20% 0805
5738	2422 549 45333	Bead 120Ω 100MHz
5752	2422 535 94134	10µH 20% 0805
5753	2422 536 00689	220µF 20%
5754	2422 535 94134	10µH 20% 0805
5900	2422 549 45333	Bead 120Ω 100MHz
5901	2422 549 45333	Bead 120Ω 100MHz
5902	2422 549 45333	Bead 120Ω 100MHz
5903	2422 549 45333	Bead 120Ω 100MHz
5904	2422 549 45333	Bead 120Ω 100MHz
5905	2422 549 45333	Bead 120Ω 100MHz
5906	2422 549 45333	Bead 120Ω 100MHz
5907	2422 549 45333	Bead 120Ω 100MHz
5908	2422 549 45333	Bead 120Ω 100MHz
5909	2422 549 45333	Bead 120Ω 100MHz
5910	2422 549 45333	Bead 120Ω 100MHz
5911	2422 549 45333	Bead 120Ω 100MHz
5A00	4822 157 11716	Bead 30Ω at 100MHz
5C00	2422 549 45333	Bead 120Ω 100MHz
5E00	2422 549 45333	Bead 120Ω 100MHz
5E01	2422 549 45333	Bead 120Ω 100MHz
5E02	2422 549 45333	Bead 120Ω 100MHz
5E03	2422 549 45333	Bead 120Ω 100MHz
5F00	2422 549 45333	Bead 120Ω 100MHz
5F01	2422 549 45333	Bead 120Ω 100MHz
5F02	2422 549 45333	Bead 120Ω 100MHz
5F03	2422 549 45333	Bead 120Ω 100MHz
5G02	2422 549 45333	Bead 120Ω 100MHz
5J01	2422 549 42896	Bead 120Ω 100MHz
5J02	2422 549 42896	Bead 120Ω 100MHz
5J03	2422 549 45333	Bead 120Ω 100MHz
5J04	2422 549 45333	Bead 120Ω 100MHz
5L00	2422 549 45333	Bead 120Ω 100MHz
5L01	2422 549 45333	Bead 120Ω 100MHz
5L02	2422 549 45333	Bead 120Ω 100MHz
5M00	2422 549 45333	Bead 120Ω 100MHz
5M01	2422 549 45333	Bead 120Ω 100MHz
5M02	2422 549 45333	Bead 120Ω 100MHz
5M03	2422 549 45333	Bead 120Ω 100MHz
5M04	2422 549 45333	Bead 120Ω 100MHz
5M05	2422 549 45333	Bead 120Ω 100MHz
5N01	4822 157 11716	Bead 30Ω at 100MHz
5N02	4822 157 11716	Bead 30Ω at 100MHz
5N03	4822 157 11716	Bead 30Ω at 100MHz
5N04	4822 157 11716	Bead 30Ω at 100MHz
5N05	4822 157 11716	Bead 30Ω at 100MHz
5P01	4822 157 11716	Bead 30Ω at 100MHz
5P02	4822 157 11716	Bead 30Ω at 100MHz
5P03	4822 157 11716	Bead 30Ω at 100MHz
5P04	4822 157 11716	Bead 30Ω at 100MHz
5P05	4822 157 11716	Bead 30Ω at 100MHz
5P06	4822 157 11716	Bead 30Ω at 100MHz

⊣▷⊢

6101	4822 130 11416	PDZ6.8B
6102	4822 130 11416	PDZ6.8B
6103	4822 130 11397	BAS316
6104	4822 130 11525	1SS356
6204	4822 130 80622	BAT54
6205	4822 130 80622	BAT54
6430	9340 548 42115	PDZ2.4B
6431	9965 000 20150	1N4148WS SOD-323
6601	4822 130 10838	UDZ3.3B
6708	3198 010 10720	SS24
6709	9322 128 70685	SMSS14
6712	3198 010 10730	SS36
6733	9322 128 70685	SMSS14
6735	5322 130 34337	BAV99
6736	9340 548 71115	PDZ33B
6740	4822 130 10837	UDZS8.2B
6751	9322 128 70685	SMSS14
6E01	9322 102 64685	UDZ2.7B
6E03	9322 102 64685	UDZ2.7B
6F00	4822 130 11397	BAS316
6F01	4822 130 11397	BAS316
6G03	4822 130 11416	PDZ6.8B
6G04	4822 130 11416	PDZ6.8B
6G05	4822 130 11416	PDZ6.8B
6G06	4822 130 11416	PDZ6.8B
6G07	4822 130 11416	PDZ6.8B
6G08	4822 130 11416	PDZ6.8B
6G09	4822 130 11416	PDZ6.8B
6G10	4822 130 11416	PDZ6.8B
6N01	9322 085 77685	TLMG3100

Software 42PF5520D/10 (See Product Survey)

7050	3139 127 06351	
7051	3139 127 05623	
7055	3104 317 08891	For LG Sets
7055	3104 317 08881	For SDI Sets

Software 42PF7520D/10 (See Product Survey)

7050	3139 127 04359	For SDI Sets
7050	3139 127 06351	For FHP Sets
7051	3104 317 09051	For SDI Sets
7051	3139 127 05862	For FHP Sets
7052	3104 317 09141	For SDI & FHP Sets
7055	3104 317 08881	For SDI Sets
7055	3139 127 05841	For FHP Sets

7101	3198 010 42310	BC847BW
7201	9340 550 49115	PUMH7
7202	9340 550 49115	PUMH7
7206	4822 130 60373	BC856B
7207	9322 214 45668	M24C16-WMN6P
7208	3198 010 42310	BC847BW
7209	3198 010 42310	BC847BW
7210	3198 010 42310	BC847BW
7214	9339 693 90135	BCP69-25
7215	9339 693 90135	BCP69-25
7216	9340 425 20115	BC847BS
7217		For SW see item 7050
7219▲	4822 209 60792	74HC4053D
7430	4822 130 11155	PDTC114ET
7436	9352 607 39118	74LVC14APW
7501	9322 199 16668	M74HC590T
7502	9322 201 05671	CY62256LL-70ZC
7503	9322 199 16668	M74HC590T
7504	3198 010 42310	BC847BW
7505	9351 870 00118	74HC573PW
7506	9351 870 00118	74HC573PW
7601	9322 183 05668	TS482ID
7602	9351 742 70118	74HC08PW
7603	3198 010 42310	BC847BW
7604	3198 010 42310	BC847BW
7605	9340 310 50215	PDTA143ET
7606	9340 425 20115	BC847BS
7708	9322 139 16668	LF33CPT
7710	9322 202 34668	L5973D
7730	9322 191 07668	IC SM L5970D
7735	4822 130 42804	BC817-25
7738	9322 163 24668	L78M08CDT
7741	3198 010 42310	BC847BW
7742	3198 010 42310	BC847BW
7752	5322 209 90529	MC34063AD
7756	4822 130 11155	PDTC114ET
7758	9322 212 14668	SI4423DY
7801	9322 219 57671	GM1501H-LF-BD
7900	9322 142 88668	LF25CDT
7901	9322 189 19668	LD1086D2T18
7A00	9352 759 98118	PCA9515ADP
7A02	3198 010 42310	BC847BW
7A03	3198 010 42310	BC847BW
7B01	9322 214 42671	K4D263238F-QC50

7C00		For SW see item 7051
7C01	9322 206 23668	M24C32-WMN6P
7C02	9322 215 39685	PST596JN
7E00	9322 195 23668	ADG733BRU
7E01	9322 199 80668	SM5301BS-G
7E02	9322 199 56668	ADG781BCP
7E03	4822 209 60792	74HC4053D
7E04	9352 607 39118	74LVC14APW
7E05	9352 607 39118	74LVC14APW
7F03		For SW see item 7055
7G03	3198 010 42310	BC847BW
7G05	3198 010 42310	BC847BW
7G10	4822 209 60792	74HC4053D
7L01	3198 010 42310	BC847BW
7L02	3198 010 42310	BC847BW
7L03	3198 010 42310	BC847BW
7L04	9322 212 77672	MST9883C-LF-110
7L05	4822 209 17398	LD1117DT33
7L06	9965 000 04199	BSN20
7L07	9965 000 04199	BSN20
7M00	9322 204 76671	T6TU5XBG-0001
7M01	9322 206 19672	MSM56V16160F-7T3-FG
7M03	9322 170 14668	LF15ABDT
7N01		For SW see item 7055
7N02	9322 217 35671	EP1C12F256C8N
7N03	9340 425 20115	BC847BS
7N04	9322 210 59668	THC63LVDF84B
7P01	9322 170 14668	LF15ABDT
7P02	9322 201 03668	THC63LVDM83R

PDP Audio [C]

Various

1735	4822 267 10918	Connector 3p
1736	2422 025 10768	Connector 3p m
1M02	4822 267 10618	Connector 7p
1M06	2422 025 11244	Connector 7p m
1M52	2422 025 10769	Connector 9p m

⊣⊢

2700	4822 126 14247	1.5nF 50V 0603
2701	4822 126 14249	560pF 10% 50V 0603
2703	2020 552 96683	220nF 10% 50V
2704	4822 124 11767	470µF 20% 25V
2705	4822 126 14249	560pF 10% 50V 0603
2706	5322 126 11579	3.3nF 10% 63V
2707	2222 580 15649	100nF 10% 50V 0805
2709	2020 552 96683	220nF 10% 50V
2710	2020 552 96683	220nF 10% 50V
2711	2022 552 05679	1µF 10% 16V 0805
2712	4822 126 14583	470nF 10% 16V 0805
2713	4822 126 13193	4.7nF 10% 63V
2715	4822 121 51252	470nF 5% 63V
2716	3198 017 31530	15nF 20% 50V 0603
2717	2022 552 05679	1µF 10% 16V 0805
2718	2222 580 15649	100nF 10% 50V 0805
2719	4822 126 14583	470nF 10% 16V 0805
2720	2020 021 91431	22µF 20% 100V
2721	2222 580 15649	100nF 10% 50V 0805
2722	4822 126 14583	470nF 10% 16V 0805
2723	2022 552 05679	1µF 10% 16V 0805
2726	4822 126 13193	4.7nF 10% 63V
2727	4822 126 14249	560pF 10% 50V 0603
2731	4822 126 14249	560pF 10% 50V 0603
2732	4822 126 14583	470nF 10% 16V 0805
2736	4822 121 51252	470nF 5% 63V
2737	3198 017 31530	15nF 20% 50V 0603
2739	2222 580 15649	100nF 10% 50V 0805
2741	4822 126 13883	220pF 5% 50V
2743	3198 016 31020	1nF 25V 0603
2744	2222 580 15649	100nF 10% 50V 0805
2745	2020 552 96683	220nF 10% 50V
2746	4822 124 11767	470µF 20% 25V
2747	2022 552 05679	1µF 10% 16V 0805
2748	4822 126 14247	1.5nF 50V 0603
2749	5322 126 11579	3.3nF 10% 63V
2751	4822 124 40433	47µF 20% 25V
2754	2020 021 91431	22µF 20% 100V
2770	3198 017 41050	1µF 10V 0603
2776	2020 021 91431	22µF 20% 100V
2780	4822 126 14583	470nF 10% 16V 0805
2789	4822 126 14583	470nF 10% 16V 0805
2791	4822 126 13879	220nF +80-20% 16V

⊣WW⊢

3700	4822 051 30561	560Ω 5% 0.062W
3701	4822 051 30479	47Ω 5% 0.062W
3702	3198 021 38220	8.2kΩ 5% 0.062W 0603
3703	3198 021 38220	8.2kΩ 5% 0.062W 0603
3704	4822 117 13632	100kΩ 1% 0603 0.62W
3705	4822 051 30222	2.2kΩ 5% 0.062W
3706	4822 051 30682	6.8Ω 5% 0.062W
3707	4822 051 30393	39kΩ 5% 0.062W
3708	4822 051 30479	47Ω 5% 0.062W
3709	4822 051 30272	2.7kΩ 5% 0.062W
3710	4822 051 30393	39kΩ 5% 0.062W
3711	2322 762 60568	5.6Ω 5% 5% 2512
3712	4822 051 30272	2.7kΩ 5% 0.062W
3713	4822 051 30332	3.3Ω 5% 0.062W
3714	4822 051 30682	6.8Ω 5% 0.062W
3715	2322 762 60568	5.6Ω 5% 5% 2512
3716	4822 117 13632	100kΩ 1% 0603 0.62W
3717	4822 051 30222	2.2kΩ 5% 0.062W
3718	4822 051 30561	560Ω 5% 0.062W
3719	4822 051 30124	120kΩ 5% 0.062W
3720	4822 051 30479	47Ω 5% 0.062W
3721	4822 051 30471	47Ω 5% 0.062W
3722	4822 051 30124	120kΩ 5% 0.062W
3723	4822 051 30471	47Ω 5% 0.062W
3724	4822 051 30102	1kΩ 5% 0.062W
3725	4822 117 12925	47kΩ 1% 0.063W 0603
3726	4822 051 30153	15kΩ 5% 0.062W
3727	4822 051 30103	10kΩ 5% 0.062W
3728	4822 051 30153	15kΩ 5% 0.062W
3729	4822 117 12925	47kΩ 1% 0.063W 0603
3730	4822 051 30223	22kΩ 5% 0.062W
3731	4822 051 30102	1kΩ 5% 0.062W
3732	4822 051 30223	22kΩ 5% 0.062W
3733	4822 051 30562	5.6kΩ 5% 0.063W 0603
3734	4822 051 30223	22kΩ 5% 0.062W
3735	4822 117 12889	270kΩ 1% 0.063W 0603
3736	4822 117 12925	47kΩ 1% 0.063W 0603
3737	4822 117 12925	47kΩ 1% 0.063W 0603
3738	4822 117 13632	100kΩ 1% 0603 0.62W
3760	4822 051 30223	22kΩ 5% 0.062W
3764	4822 117 13632	100kΩ 1% 0603 0.62W
3765	4822 117 13632	100kΩ 1% 0603 0.62W
3777	4822 051 30102	1kΩ 5% 0.062W
3778	4822 051 30479	47Ω 5% 0.062W
3999	4822 051 30472	4.7Ω 5% 0.062W
9710	4822 051 20008	Jumper 0805
9711	4822 051 20008	Jumper 0805
9712	4822 051 20008	Jumper 0805
9713	4822 051 20008	Jumper 0805
9748	4822 051 20008	Jumper 0805
9757	4822 051 20008	Jumper 0805
9758	4822 051 20008	Jumper 0805
9759	4822 051 20008	Jumper 0805
9760	4822 051 20008	Jumper 0805
9761	4822 051 20008	Jumper 0805
9762	4822 051 20008	Jumper 0805
9763	4822 051 20008	Jumper 0805
9764	4822 051 20008	Jumper 0805
9765	4822 051 20008	Jumper 0805
9766	4822 051 20008	Jumper 0805
9768	4822 051 20008	Jumper 0805
9770	4822 051 20008	Jumper 0805
9790	4822 051 20008	Jumper 0805
9795	4822 051 20008	Jumper 0805
9796	4822 051 20008	Jumper 0805
9806	4822 051 20008	Jumper 0805
9807	4822 051 20008	Jumper 0805
9808	4822 051 20008	Jumper 0805

⌒

5700	2422 536 00942	33µH 20%
5701	4822 157 11716	Bead 30Ω at 100MHz
5702	2422 536 00942	33µH 20%
5705	4822 157 11411	Bead 80Ω at 100MHz
5708	4822 157 11411	Bead 80Ω at 100MHz

⊳⊢

6700	4822 130 11522	UDZ15B
6702	9322 150 18685	BZX384-C47
6703	4822 130 10838	UDZ3.3B

7700	9322 202 89668	LM393P
7701	9352 729 65112	TDA8925ST/N1
7702	3198 010 42310	BC847BW
7705	3198 010 42310	BC847BW
7706	3198 010 42310	BC847BW
7707	3198 010 42310	BC847BW
7708	3198 010 42320	BC857BW
7709	3198 010 42310	BC847BW
7710	3198 010 42310	BC847BW
7711	3198 010 42320	BC857BW
7712	3198 010 42310	BC847BW
7713	3198 010 42310	BC847BW

LED Panel [J]

Various

0345	2422 025 18741	Connector 6p m
1040	9322 206 81667	TSOP34836YA1

⊣⊢

2040	4822 124 12095	100µF 20% 16V

⊣WW⊢

3040	4822 117 13597	330Ω 5% 0402 0.01W
3051	4822 051 30221	220Ω 5% 0.062W
3061	4822 051 30221	220Ω 5% 0.062W
3063	4822 117 13606	10kΩ 5% 0.01W 0402
3078	3198 031 02250	2.2MΩ 5% 0.1W 0402
9012	4822 117 13605	Jumper 0402
9041	4822 117 13605	Jumper 0402
9042	4822 117 13605	Jumper 0402
9062	4822 117 13605	Jumper 0402
9066	4822 117 13606	10kΩ 5% 0.01W 0402
9070	4822 117 13605	Jumper 0402
9081	4822 117 13605	Jumper 0402
9082	4822 117 13605	Jumper 0402
9111	4822 117 13605	Jumper 0402
9112	4822 117 13605	Jumper 0402
9115	4822 117 13605	Jumper 0402
9122	4822 117 13605	Jumper 0402

⊳⊢

6051	9322 218 97685	SML-310VTK
6060	9322 134 46685	SML-310MT
6070	9322 140 63685	TEMD5000

7051	3198 010 42310	BC847BW
7052	3198 010 42310	BC847BW
7062	4822 130 60373	BC856B

IBO Zapper Panel [K]

Various

1301	2422 025 10768	Connector 3p m
1304	4822 252 51187	1939RE 1(0,500A)
1401	4822 267 31729	Connector cinch 1p
1402	4822 267 10459	Connector 3p
1403	2422 025 18799	Socket USB 4p f
1500	2422 025 18872	Connector 32p f
1600	3112 297 13381	TUNER TD1316/SPHP
1700	2422 033 00364	Connector smartcard
8301	3139 110 27701	Cable03P/480/03P
8500	3139 131 06221	Cable32P/400/32P
8600	3139 131 05451	Cable340

⊣⊢

2100	4822 124 23002	10µF 16V
2101	4822 124 23002	10µF 16V
2102	4822 124 23002	10µF 16V
2103	2238 586 59812	100nF 20% 50V 0603
2104	2238 586 59812	100nF 20% 50V 0603
2105	2238 586 59812	100nF 20% 50V 0603
2106	2238 586 59812	100nF 20% 50V 0603
2107	2238 586 59812	100nF 20% 50V 0603
2108	2238 586 59812	100nF 20% 50V 0603
2109	2238 586 59812	100nF 20% 50V 0603
2110	2238 586 59812	100nF 20% 50V 0603
2111	2238 586 59812	100nF 20% 50V 0603
2112	2238 586 59812	100nF 20% 50V 0603
2113	2238 586 59812	100nF 20% 50V 0603
2114	2238 586 59812	100nF 20% 50V 0603
2115	2238 586 59812	100nF 20% 50V 0603
2116	2238 586 59812	100nF 20% 50V 0603
2119	2238 586 59812	100nF 20% 50V 0603
2120	2238 586 59812	100nF 20% 50V 0603
2121	2238 586 59812	100nF 20% 50V 0603
2130	4822 124 23002	10µF 16V
2131	4822 124 23002	10µF 16V
2132	4822 124 23002	10µF 16V
2133	4822 124 23002	10µF 16V

2131	4822 124 23002	10µF 16V
2132	4822 124 23002	10µF 16V
2133	4822 124 23002	10µF 16V
2203	4822 124 23002	10µF 16V
2204	2238 586 59812	100nF 20% 50V 0603
2206	4822 124 23002	10µF 16V
2207	2238 586 59812	100nF 20% 50V 0603
2208	2238 586 59812	100nF 20% 50V 0603
2209	2238 586 59812	100nF 20% 50V 0603
2210	2238 586 59812	100nF 20% 50V 0603
2211	2238 586 59812	100nF 20% 50V 0603
2212	2238 586 59812	100nF 20% 50V 0603
2213	2238 586 59812	100nF 20% 50V 0603
2214	2238 586 59812	100nF 20% 50V 0603
2300	4822 126 13881	470pF 5% 50V
2301	4822 124 40849	330UF 20% 16V
2302	4822 124 40207	100µF 20% 25V
2304	2020 021 91506	1000µF 20% 16V
2305	2238 586 59812	100nF 20% 50V 0603
2306	4822 124 40207	100µF 20% 25V
2308	4822 126 13881	470pF 5% 50V
2309	4822 124 40849	330UF 20% 16V
2311	2020 021 91687	470µF 20% 16V
2313	4822 126 13881	470pF 5% 50V
2314	3198 017 33330	33nF 20% 16V 0603
2315	4822 124 40849	330UF 20% 16V
2317	4822 124 40207	100µF 20% 25V
2318	2020 021 91687	470µF 20% 16V
2319	2020 021 91634	100µF 25V
2320	2238 586 59812	100nF 20% 50V 0603
2324	3198 017 44740	470nF 10V 0603
2325	3198 017 44740	470nF 10V 0603
2326	3198 017 44740	470nF 10V 0603
2327	2238 586 59812	100nF 20% 50V 0603
2328	2238 586 59812	100nF 20% 50V 0603
2329	4822 126 13193	4.7nF 10% 63V
2330	2020 021 91687	470µF 20% 16V
2331	4822 126 13193	4.7nF 10% 63V
2332	4822 124 40207	100µF 20% 25V
2333	5322 126 11583	10nF 10% 50V 0603
2334	2238 586 59812	100nF 20% 50V 0603
2335	4822 124 12095	100µF 20% 16V
2336	4822 126 13193	4.7nF 10% 63V
2337	4822 124 11947	10µF 20% 16V
2337	4822 124 22652	2.2µF 20% 50V
2403	2238 586 59812	100nF 20% 50V 0603
2405	2238 586 59812	100nF 20% 50V 0603
2406	3198 032 27190	100µF 6.3V
2411	2238 586 59812	100nF 20% 50V 0603
2412	2238 586 59812	100nF 20% 50V 0603
2413	2238 586 59812	100nF 20% 50V 0603
2500	3198 017 41050	1µF 10V 0603
2501	2020 552 94427	100pF 5% 50V
2502	2238 586 59812	100nF 20% 50V 0603
2503	2020 552 94427	100pF 5% 50V
2504	2238 586 59812	100nF 20% 50V 0603
2505	3198 017 41050	1µF 10V 0603
2506	4822 124 12084	1µF 20% 50V
2507	4822 126 13193	4.7nF 10% 63V
2508	3198 017 41050	1µF 10V 0603
2509	2020 552 94427	100pF 5% 50V
2510	2020 552 94427	100pF 5% 50V
2511	2238 586 59812	100nF 20% 50V 0603
2512	4822 124 80151	47µF 16V
2513	3198 017 41050	1µF 10V 0603
2514	4822 124 12084	1µF 20% 50V
2515	4822 126 13193	4.7nF 10% 63V
2520	4822 122 33761	22pF 5% 50V
2521	4822 122 33761	22pF 5% 50V
2522	4822 126 14315	390pF 5% 50V 0603
2523	4822 126 14315	390pF 5% 50V 0603
2524	4822 122 33761	22pF 5% 50V
2525	4822 126 14315	390pF 5% 50V 0603
2526	4822 126 14315	390pF 5% 50V 0603
2527	4822 122 33761	22pF 5% 50V
2528	4822 122 33761	22pF 5% 50V
2529	4822 122 33761	22pF 5% 50V
2530	4822 126 14315	390pF 5% 50V 0603
2531	4822 126 14315	390pF 5% 50V 0603
2532	4822 122 33761	22pF 5% 50V
2533	4822 122 33761	22pF 5% 50V
2534	4822 122 33761	22pF 5% 50V
2535	4822 122 33761	22pF 5% 50V
2536	4822 122 33761	22pF 5% 50V
2537	4822 126 14315	390pF 5% 50V 0603
2538	4822 126 14315	390pF 5% 50V 0603
2539	4822 126 13879	220nF +80-20% 16V
2540	4822 126 13879	220nF +80-20% 16V
2543	4822 124 80151	47µF 16V
2544	2238 586 59812	100nF 20% 50V 0603
2550	4822 126 13879	220nF +80-20% 16V
2551	3198 017 41050	1µF 10V 0603
2553	4822 126 13879	220nF +80-20% 16V
2554	3198 017 41050	1µF 10V 0603
2555	4822 124 23002	10µF 16V
2556	2238 586 59812	100nF 20% 50V 0603
2607	2238 586 59812	100nF 20% 50V 0603
2608	2238 586 59812	100nF 20% 50V 0603
2609	2238 586 59812	100nF 20% 50V 0603
2610	2238 586 59812	100nF 20% 50V 0603
2611	2238 586 59812	100nF 20% 50V 0603
2612	2238 586 59812	100nF 20% 50V 0603
2613	2238 586 59812	100nF 20% 50V 0603
2614	4822 124 80151	47µF 16V
2615	2238 586 59812	100nF 20% 50V 0603
2617	2238 586 59812	100nF 20% 50V 0603
2618	2238 586 59812	100nF 20% 50V 0603
2619	2238 586 59812	100nF 20% 50V 0603
2620	2238 586 59812	100nF 20% 50V 0603
2621	4822 124 80151	47µF 16V
2622	4822 124 80151	47µF 16V
2623	2238 586 59812	100nF 20% 50V 0603
2624	2238 586 59812	100nF 20% 50V 0603
2625	2238 586 59812	100nF 20% 50V 0603
2626	2238 586 59812	100nF 20% 50V 0603
2627	2238 586 59812	100nF 20% 50V 0603
2628	2238 586 59812	100nF 20% 50V 0603
2629	2238 586 59812	100nF 20% 50V 0603
2630	2238 586 59812	100nF 20% 50V 0603
2631	2238 586 59812	100nF 20% 50V 0603
2632	4822 122 33741	10pF 10% 50V
2700	2238 586 59812	100nF 20% 50V 0603
2701	2238 586 59812	100nF 20% 50V 0603
2702	2238 586 59812	100nF 20% 50V 0603
2703	2238 586 59812	100nF 20% 50V 0603
2704	2238 586 59812	100nF 20% 50V 0603
2705	2238 586 59812	100nF 20% 50V 0603
2706	4822 124 23002	10µF 16V
2707	4822 124 23002	10µF 16V
2708	2238 586 59812	100nF 20% 50V 0603
2709	4822 124 23002	10µF 16V
2710	2238 586 59812	100nF 20% 50V 0603
2711	2238 586 59812	100nF 20% 50V 0603
2712	2238 586 59812	100nF 20% 50V 0603
2713	4822 124 23002	10µF 16V
2714	5322 126 11578	1nF 10% 50V 0603
2715	2020 552 94427	100pF 5% 50V

-WW-

3100	4822 051 30103	10kΩ 5% 0.062W
3101	4822 051 30103	10kΩ 5% 0.062W
3112	4822 051 30103	10kΩ 5% 0.062W
3116	4822 051 30103	10kΩ 5% 0.062W
3117	4822 051 30103	10kΩ 5% 0.062W
3119	4822 051 30103	10kΩ 5% 0.062W
3128	4822 051 30103	10kΩ 5% 0.062W
3130	4822 051 30103	10kΩ 5% 0.062W
3131	4822 051 30103	10kΩ 5% 0.062W
3133	9965 000 23109	22Ω 5% 0603
3134	9965 000 23109	22Ω 5% 0603
3135	9965 000 23109	22Ω 5% 0603
3137	4822 051 30103	10kΩ 5% 0.062W
3138	4822 051 30103	10kΩ 5% 0.062W
3139	4822 051 30339	33Ω 5% 0.062W
3140	5322 117 13036	1.2kΩ 1% 0.063W 0603
3141	4822 051 30103	10kΩ 5% 0.062W
3142	4822 051 30101	100Ω 5% 0.062W
3143	4822 051 30101	100Ω 5% 0.062W
3144	4822 051 30101	100Ω 5% 0.062W
3146	4822 051 30101	100Ω 5% 0.062W
3147	4822 051 30101	100Ω 5% 0.062W
3151	4822 051 30103	10kΩ 5% 0.062W
3154	4822 051 30103	10kΩ 5% 0.062W
3156	3198 031 13390	4X 33Ω 5% 1206
3157	3198 031 13390	4X 33Ω 5% 1206
3158	3198 031 13390	4X 33Ω 5% 1206
3159	3198 031 13390	4X 33Ω 5% 1206
3160	4822 051 30339	33Ω 5% 0.062W
3161	4822 051 30339	33Ω 5% 0.062W
3162	4822 051 30339	33Ω 5% 0.062W
3163	4822 051 30103	10kΩ 5% 0.062W
3200	4822 051 30332	3.3Ω 5% 0.062W
3205	4822 051 30103	10kΩ 5% 0.062W
3206	4822 051 30332	3.3Ω 5% 0.062W
3207	4822 051 30332	3.3Ω 5% 0.062W
3209	4822 051 30101	100Ω 5% 0.062W
3210	4822 051 30101	100Ω 5% 0.062W
3211	4822 051 30103	10kΩ 5% 0.062W
3300	3198 021 31080	1Ω 5% 0603
3301	3198 021 31080	1Ω 5% 0603
3303	3198 021 31080	1Ω 5% 0603
3304	5322 117 13046	1.8kΩ 1% 0.063W 0603
3306	2322 704 61002	1kΩ 1%
3307	2322 704 61001	100Ω 1% 0603
3312	3198 021 31080	1Ω 5% 0603
3313	3198 021 31080	1Ω 5% 0603
3314	3198 021 31080	1Ω 5% 0603
3315	4822 051 30102	1kΩ 5% 0.062W
3316	4822 051 30102	1kΩ 5% 0.062W
3317	2322 704 63302	3.3kΩ 1% 0603
3318	3198 021 31080	1Ω 5% 0603
3319	3198 021 31080	1Ω 5% 0603
3320	3198 021 31080	1Ω 5% 0603
3321	3198 021 31080	1Ω 5% 0603
3322	5322 117 13042	3.9kΩ 1% 0.063W 0603
3323	5322 117 13057	820Ω 1% 0.063W 0603
3324	4822 051 30102	1kΩ 5% 0.062W
3325	4822 117 13632	100kΩ 1% 0603 0.62W
3326	4822 051 30103	10kΩ 5% 0.062W
3327	4822 051 30339	33Ω 5% 0.062W
3328	4822 117 13632	100kΩ 1% 0603 0.62W
3330	3198 021 31820	1.8kΩ 5% 0.062W 0603
3331	2322 704 61001	100Ω 1% 0603
3332	5322 117 13055	75Ω 1% 0.063W 0603
3333	4822 051 30273	27kΩ 5% 0.062W
3333	4822 117 12925	47kΩ 1% 0.063W 0603
3334	4822 051 30103	10kΩ 5% 0.062W
3334	4822 051 30333	33kΩ 5% 0.062W
3403	4822 051 30103	10kΩ 5% 0.062W
3404	4822 051 30561	560Ω 5% 0.062W
3405	4822 051 30102	1kΩ 5% 0.062W
3406	4822 051 30102	1kΩ 5% 0.062W
3407	4822 051 30689	68Ω 5% 0.063W 0603
3411	4822 051 30181	180Ω 5% 0.062W
3420	4822 051 30339	33Ω 5% 0.062W
3421	4822 051 30339	33Ω 5% 0.062W
3422	4822 051 30153	15kΩ 5% 0.062W
3423	4822 051 30153	15kΩ 5% 0.062W
3500	4822 051 30102	1kΩ 5% 0.062W
3501	4822 117 12968	820Ω 5% 0.62W
3502	4822 051 30683	68kΩ 5% 0.062W
3503	4822 051 30102	1kΩ 5% 0.062W
3504	4822 117 13613	2.2Ω 5% 0603
3505	4822 117 12968	820Ω 5% 0.62W
3506	4822 051 30333	33kΩ 5% 0.062W
3507	4822 051 30152	1.5Ω 5% 0.062W
3508	4822 117 13613	2.2Ω 5% 0603
3509	4822 051 30102	1kΩ 5% 0.062W
3510	4822 051 30683	68kΩ 5% 0.062W
3511	4822 117 12968	820Ω 5% 0.62W
3512	4822 051 30101	100Ω 5% 0.062W
3513	4822 051 30101	100Ω 5% 0.062W
3514	4822 051 30102	1kΩ 5% 0.062W
3515	4822 051 30333	33kΩ 5% 0.062W
3516	4822 117 12968	820Ω 5% 0.62W
3517	4822 051 30152	1.5Ω 5% 0.062W
3519	4822 051 30759	75Ω 5% 0.062W
3520	4822 051 30759	75Ω 5% 0.062W
3521	4822 051 30759	75Ω 5% 0.062W
3522	4822 051 30759	75Ω 5% 0.062W
3523	4822 051 30759	75Ω 5% 0.062W
3526	4822 051 30759	75Ω 5% 0.062W
3527	4822 051 30759	75Ω 5% 0.062W
3528▲	5322 117 11726	10Ω 5%
3530	4822 051 30759	75Ω 5% 0.062W
3532	4822 051 30561	560Ω 5% 0.062W
3533	4822 051 30759	75Ω 5% 0.062W
3534	4822 117 12891	220kΩ 1%
3535	4822 117 13632	100kΩ 1% 0603 0.62W
3537	4822 117 12891	220kΩ 1%
3538	4822 117 13632	100kΩ 1% 0603 0.62W
3539	4822 051 30759	75Ω 5% 0.062W
3540	4822 051 30561	560Ω 5% 0.062W
3547	4822 051 30759	75Ω 5% 0.062W
3548	4822 051 30561	560Ω 5% 0.062W
3557	4822 117 13632	100kΩ 1% 0603 0.62W
3558	4822 051 30102	1kΩ 5% 0.062W
3559	4822 051 30681	680Ω 5% 0.062W
3560	4822 051 30273	27kΩ 5% 0.062W
3561	4822 051 30271	270Ω 5% 0.062W
3562	4822 051 30151	150Ω 5% 0.062W
3563	4822 117 13632	100kΩ 1% 0603 0.62W
3564	4822 051 30102	1kΩ 5% 0.062W
3565	4822 051 30681	680Ω 5% 0.062W
3566	4822 051 30273	27kΩ 5% 0.062W
3567	4822 051 30271	270Ω 5% 0.062W
3568	4822 051 30151	150Ω 5% 0.062W
3570	4822 051 30689	68Ω 5% 0.063W 0603
3571	4822 051 30151	150Ω 5% 0.062W
3606	4822 051 30101	100Ω 5% 0.062W
3607	4822 051 30101	100Ω 5% 0.062W
3608	4822 051 30103	10kΩ 5% 0.062W
3609	4822 051 30472	4.7Ω 5% 0.062W
3610	4822 051 30472	4.7Ω 5% 0.062W
3612	4822 051 30472	4.7Ω 5% 0.062W
3613	4822 117 13632	100kΩ 1% 0603 0.62W
3614	4822 117 13632	100kΩ 1% 0603 0.62W
3615	4822 051 30102	1kΩ 5% 0.062W
3618	4822 117 13632	100kΩ 1% 0603 0.62W
3619	4822 117 13632	100kΩ 1% 0603 0.62W

3621	4822 051 30339	33Ω 5% 0.062W
3622	3198 031 13390	4X 33Ω 5% 1206
3623	4822 051 30472	4.7Ω 5% 0.062W
3624	3198 031 13390	4X 33Ω 5% 1206
3625	4822 051 30101	100Ω 5% 0.062W
3626	4822 051 30272	2.7kΩ 5% 0.062W
3627	4822 051 30272	2.7kΩ 5% 0.062W
3629	4822 051 30101	100Ω 5% 0.062W
3630	4822 051 30101	100Ω 5% 0.062W
3631	4822 051 30101	100Ω 5% 0.062W
3635	4822 051 30339	33Ω 5% 0.062W
3636	4822 051 30684	680kΩ 5% 0.062W
3637	4822 117 12891	220kΩ 1%
3638	4822 051 30331	330Ω 5% 0.062W
3639	4822 051 30391	390Ω 5% 0.062W
3640	4822 051 30684	680kΩ 5% 0.062W
3641	4822 117 12891	220kΩ 1%
3642	4822 051 30331	330Ω 5% 0.062W
3643	4822 051 30331	330Ω 5% 0.062W
3644	3198 031 13390	4X 33Ω 5% 1206
3645	4822 051 30103	10kΩ 5% 0.062W
3700	4822 051 30101	100Ω 5% 0.062W
3701	4822 051 30101	100Ω 5% 0.062W
3702	3198 031 13390	4X 33Ω 5% 1206
3703	3198 031 13390	4X 33Ω 5% 1206
3704	4822 051 30103	10kΩ 5% 0.062W
3705	3198 031 13390	4X 33Ω 5% 1206
3707	4822 051 30103	10kΩ 5% 0.062W
3708	4822 051 30103	10kΩ 5% 0.062W
3709	4822 051 30103	10kΩ 5% 0.062W
3710	4822 051 30103	10kΩ 5% 0.062W
3711	4822 051 30103	10kΩ 5% 0.062W
3712	4822 051 30103	10kΩ 5% 0.062W
3713	2322 704 62002	2kΩ 1%
3715	4822 051 30103	10kΩ 5% 0.062W
3716	4822 051 30103	10kΩ 5% 0.062W
3717	4822 051 30103	10kΩ 5% 0.062W
3718	4822 051 30103	10kΩ 5% 0.062W
3719	4822 051 30103	10kΩ 5% 0.062W
3720	4822 051 30103	10kΩ 5% 0.062W
3721	4822 051 30103	10kΩ 5% 0.062W
3722	4822 051 30103	10kΩ 5% 0.062W
3723	3198 031 13390	4X 33Ω 5% 1206
3724	3198 031 13390	4X 33Ω 5% 1206
3725	4822 051 30339	33Ω 5% 0.062W
3726	4822 051 30339	33Ω 5% 0.062W
3727	4822 051 30479	47Ω 5% 0.062W
3728	4822 051 30479	47Ω 5% 0.062W
3729	4822 051 30479	47Ω 5% 0.062W
3730	4822 051 30479	47Ω 5% 0.062W
3731	4822 051 30479	47Ω 5% 0.062W
3732	4822 051 30479	47Ω 5% 0.062W
3733	4822 051 30479	47Ω 5% 0.062W
3734	4822 117 13573	4 x 47Ω 5%
3738	4822 051 30479	47Ω 5% 0.062W
3739	4822 051 30479	47Ω 5% 0.062W
3740	4822 051 30479	47Ω 5% 0.062W
3741	4822 051 30479	47Ω 5% 0.062W
3742	4822 051 30479	47Ω 5% 0.062W
3743	4822 051 30479	47Ω 5% 0.062W
3744	4822 051 30479	47Ω 5% 0.062W
3745	4822 051 30479	47Ω 5% 0.062W
3746	4822 051 30479	47Ω 5% 0.062W
3747	4822 051 30479	47Ω 5% 0.062W
3748	4822 051 30479	47Ω 5% 0.062W
3749	4822 051 30339	33Ω 5% 0.062W
3750	4822 051 30339	33Ω 5% 0.062W
3751	4822 051 30472	4.7Ω 5% 0.062W
3752	4822 051 30472	4.7Ω 5% 0.062W

5100	4822 157 11499	Bead 60Ω at 100MHz
5101	4822 157 11717	Bead 50Ω at 100MHz
5102	4822 157 11717	Bead 50Ω at 100MHz
5103	4822 157 11717	Bead 50Ω at 100MHz
5201	4822 157 11499	Bead 60Ω at 100MHz
5202	4822 157 11499	Bead 60Ω at 100MHz
5203	4822 157 11499	Bead 60Ω at 100MHz
5300	2422 536 00491	47µ
5301	4822 157 10452	10µH 10%
5302	2422 535 94639	10µH 20%
5303	2422 536 00548	100µ
5304	4822 157 10452	10µH 10%
5305	2422 536 00548	100µ
5306	4822 157 10452	10µH 10%
5307	2422 535 94639	10µH 20%
5309	3198 018 90050	Bead 1kΩ at 100MHz
5401	4822 157 11499	Bead 60Ω at 100MHz
5420	2422 549 44197	Bead 220Ω at 100MHz
5502	4822 157 11499	Bead 60Ω at 100MHz
5504	4822 157 11499	Bead 60Ω at 100MHz
5505	4822 157 11499	Bead 60Ω at 100MHz
5507	4822 157 11499	Bead 60Ω at 100MHz
5508	4822 157 11499	Bead 60Ω at 100MHz
5511	3198 018 52280	2.2µF 10% 1008
5512	3198 018 52280	2.2µF 10% 1008
5513	3198 018 52280	2.2µF 10% 1008
5514	3198 018 52280	2.2µF 10% 1008
5528	4822 157 11499	Bead 60Ω at 100MHz
5600	4822 157 11499	Bead 60Ω at 100MHz
5601	4822 157 11499	Bead 60Ω at 100MHz
5602	4822 157 11499	Bead 60Ω at 100MHz
5700	4822 157 11499	Bead 60Ω at 100MHz
5701	4822 157 11499	Bead 60Ω at 100MHz
5702	4822 157 11499	Bead 60Ω at 100MHz
5703	4822 157 11499	Bead 60Ω at 100MHz
5704	4822 157 11499	Bead 60Ω at 100MHz

6300	9322 128 70685	SMSS14
6303	9322 128 70685	SMSS14
6304	9322 128 70685	SMSS14
6307	9965 000 20150	1N4148WS SOD-323
6400	9340 548 52115	PDZ5.1B
6401	4822 130 10837	UDZS8.2B
6403	4822 130 10837	UDZS8.2B
6503	4822 130 11397	BAS316
6504	4822 130 11397	BAS316

7100	9352 744 74557	SM PNX8316HS/C102
7200	9322 206 20668	M29W320DT70N6F
7202	9322 213 88668	K4S281632F-TC60
7203	9322 130 41668	M24C64-WMN6
7300	4822 209 60059	MC34063AP1
7301	9322 184 19687	LD1117V18
7302	9322 216 98687	LD1117V
7303	4822 209 60059	MC34063AP1
7305	4822 209 60059	MC34063AP1
7306	9322 165 15685	NCP303LSN30
7307	9322 202 15687	LD1117V50
7308	9322 202 15687	LD1117V50
7309	4822 130 60373	BC856B
7310	3198 010 70510	TL431CZ
7311	9322 214 70685	SM SI2314EDS-E3
7312	5322 130 60159	BC846B
7402	5322 130 60159	BC846B
7403	9322 150 49668	LM3525M-H
7500	4822 130 60373	BC856B
7501	5322 130 60159	BC846B
7502	9352 668 39118	SM UDA1334ATS/N2
7503	4822 130 60373	BC856B
7504	5322 130 60159	BC846B
7505	5322 130 60159	BC846B
7506	5322 130 60159	BC846B
7507	5322 130 60159	BC846B
7510	5322 130 60159	BC846B
7511	4822 130 60373	BC856B
7512	5322 130 60159	BC846B
7513	4822 130 60373	BC856B
7514	5322 130 60159	BC846B
7600	9352 732 45557	TDA10046AHT/C1
7601	5322 209 70225	LM393D
7605	9352 630 16165	SM 74AHC1GU04GW
7606	9352 630 16165	SM 74AHC1GU04GW
7700	9322 172 92671	CIMAX 2.0
7701	9352 190 10118	74LVC573ADB
7702	9352 190 10118	74LVC573ADB
7703	9352 115 40118	74LVC245APW
7704	2722 171 08821	XTL 27MHz 50pF
7705	9322 175 13668	ST890CD

11. Revision List

Manual xxxx xxx xxxx.0

- First release.

Manual xxxx xxx xxxx.1

- Chapter 7: PSU schematics and PWB's [A] added.
- Chapter 10: PSU parts list [A] added and software items updated.